

Appendices	Page 1 of 1
Subsection: Table of Contents	Issued 7/1/99

APPENDICES

TABLE OF CONTENTS

Appendices

- A. Manual Acronyms
- B. Glossary of Infection Control Terms and Definitions
- C. Division of Aging, "Rules for Intermediate Care, Skilled Nursing and Residential Care Facilities"
- D. Health Care Financing Administration, "Rules for Certified Facilities"
- E. Department of Health, "Tuberculosis Testing Rule"
- F. Department of Natural Resources, "Infectious Waste Rules"
- G. Department of Health, "Infectious Waste Definitions"
- H. Department of Health, "Health Care Provider Rules"
- I. Department of Health, "Reporting Rule"
- J. Department of Health, "Guidelines for Scabies Prevention and Control"
- K. Department of Health, "Guidelines for Investigation of Gastrointestinal Illness of Undetermined Origin in Long Term Care Facilities"

Appendices	Page 1 of 2
Appendix A. Manual Acronyms	Issued 7/1/99

MANUAL ACRONYMS

ADLs	- Activities of daily living
AIDS	- Acquired immunodeficiency syndrome
BSP	- Body substance precautions
CDC	- Centers for Disease Control and Prevention
DON	- Director of Nursing
EPA	- U.S. Environmental Protection Agency
HBV	- Hepatitis B virus
HCV	- Hepatitis C virus
HIV	- Human immunodeficiency virus
ICU	- Intensive care unit
INH	- Isoniazid
IV	- Intravascular
LRI	- Lower respiratory infection
LTCFs	- Long term care facilities
MRSA	- Methicillin resistant <i>Staphylococcus aureus</i>
OPIM	- Other potentially infected materials
OSHA	- Occupational Safety and Health Administration
PPD	- Purified protein derivative (tuberculin)
TB	- Tuberculosis
URI	- Upper respiratory infection
UTI	- Urinary tract infection
VRE	- Vancomycin resistant enterococci

Appendices Appendix A. Manual Acronyms	Page 2 of 2
	Issued 7/1/99

Appendices	Page 1 of 6
Appendix B. Glossary of Infection Control Terms and Definitions	Issued 7/1/99

GLOSSARY OF INFECTION CONTROL TERMS AND DEFINITIONS

The following definitions apply to these terms as used in this document.

Baseline infection rate - The average rate of new infections per body site in the past one to five years.

Body Substance Precautions (BSP) - a practical, safe approach whereby barriers (gloves, gowns, eyewear and masks) are used to prevent contact with all moist body substances (blood, feces, urine, wound drainage, tissues, oral secretions, and other body fluids) as well as non-intact skin.

Carrier - An individual who harbors the specific organisms of a disease without manifesting symptoms and is capable of transmitting the infection. The condition of such an individual is referred to as the carrier state.

Change in character of urine - Any significant change in the gross (e.g., new bloody urine, foul smell, or amount of sediment) or microscopic (new pyuria, or microscopic hematuria) character of the urine. For microscopic changes, this means that the results of a previous urinalysis must be on the chart. There is no time limit on when the previous urinalysis may have been done.

Change in functional status - A change in the resident's ability or willingness to carry out activities of daily living. For instance, new incontinence, new inability to walk to the dining room, or increased difficulty in transferring from bed to wheelchair would all be recorded as change in functional status.

Change in mental status - A change in the resident's cognitive function, such as a change in the ability to make decisions; in orientation to person, place, or time; or level of alertness, mood, and/or behavior.

Cohort - The placement of two or more residents with similar symptoms or diagnosed conditions in the same room or area of a facility, physically separated from other residents, and cared for by staff who do not care for other residents.

Colonization - The condition of a resident where a microorganism is on the skin or has entered a body site, is multiplying but no clinical signs and symptoms or injury to the body are evident. A colonized resident represents a reservoir (conditions providing survival and growth) of an organism in the facility.

Compatible clinical syndrome - An acute illness with symptoms related to a relevant body system (respiratory or gastrointestinal). In general, the symptoms will be some of those included in the definitions for either lower respiratory tract infection or gastroenteritis, but the criteria for the infection need not be met.

INFECTION CONTROL GUIDELINES FOR LONG TERM CARE FACILITIES

Appendices	Page 2 of 6
Appendix B. Glossary of Infection Control Terms and Definitions	Issued 7/1/99

Conjunctiva - The delicate membrane that lines the eyelids and covers the exposed surface of the eyeball.

Diagnosis by a physician - Requires one of the following:

- Written note by a physician specifying diagnosis, or
- Nursing note specifying that a diagnosis was made by a physician, or
- Verbal report from either a physician or nurse that a specific diagnosis has been made.

Ear infection - Includes infections of the external ear (otitis externa), middle ear (otitis media), or internal ear (otitis interna, labyrinthitis, vestibular neuronitis).

Endemic - When the number or rate of colonizations and/or infections are relatively constant for a specific time and place in a facility.

Epidemiologically associated - An ill person who has had contact with an infected case, particularly a laboratory-confirmed case, wherein the transmission of the infectious agent is plausible to have occurred from the known infected case.

Fever - A single temperature, taken by any route; of $\geq 38^{\circ}\text{C}$ or 100.4°F .
and/or

When body temperature is 2.4°F above the resident's normal baseline.

(Example: Median oral temperature of elderly persons is 96.8°F . Normal body temperature in the aged may be as low as 95.0°F . A temperature of 98.0°F should be considered fever in a resident who usually carries a temperature of 95.0°F .)

Flank - Side of the body, below the rib cage and above the hip. (The area in which pain is usually felt in upper urinary tract infections is referred to as the "costovertebral angle." It is a relatively posterior area of the flank just below the ribs and extending from the side nearly to the backbone).

Hypothermia - A body temperature which is below 34.5°C or 94.1°F , or which does not register on a thermometer being used.

Incidence rate of infections - Number of residents with **newly** acquired infection divided by the total number of residents at risk for infection multiplied by 100 resident days or preferably 1000 resident care days during a defined period of time.

Infection - The condition of a resident where a microorganism has entered a body site, multiplies, and causes clinical signs and symptoms such as fever, purulent wound drainage, and/or tissue destruction, expectoration of purulent sputum, frequent urination with burning.

Appendices	Page 3 of 6
Appendix B. Glossary of Infection Control Terms and Definitions	Issued 7/1/99

Invasive site - Any place on a resident's body where the normal skin or mucous membrane barrier is broken, either by natural or artificial means. Decubitus ulcers, surgical incision sites, intravenous or urinary catheters, and feeding gastrostomy or jejunostomy tubes are common examples.

Investigating the outbreak - A process of systematically gathering information on residents and staff of a facility regarding demographics, illness and exposure factors, and the tabulation of that information in order to establish associations between illness and any predisposing risk factors for that illness.

Laboratory confirmation - A laboratory test of a clinical specimen that identifies the presence of one or more disease-producing microorganisms.

Low level disinfectant or disinfection - A product or process that destroys most bacteria, some viruses, some fungi, but not *Mycobacterium tuberculosis* or bacterial spores. This EPA registered hospital disinfectant has no label claim for tuberculocidal activity. This agent is an excellent cleaner and can be used for routine housekeeping or removal of soil in the absence of visible blood contamination.

Lymphadenopathy - Enlargement of lymph glands.

Maculopapular - A rash characterized by abnormally colored (usually red) areas of skin, of varying size, which is partially flat and partially somewhat raised.

Malaise - A feeling of generalized body discomfort.

Mantoux test - Intracutaneous tuberculin skin test. The current standard method of tuberculosis testing in which tuberculin is administered intradermally using a needle and syringe.

Multiply resistant organisms - Usually considered bacteria, but can be a virus or fungus which is resistant to two or more unrelated antimicrobials to which the organism is normally considered susceptible **or** is resistant to more than one of the first line or key drugs, especially aminoglycosides (gentamicin, tobramycin, amikacin, netilmicin), third-generation cephalosporins (ceftazidime, ceftriaxone, etc.); beta lactam drugs (methicillin, nafcillin, oxacillin), often fluoroquinolones and occasionally carbapenems.

New physical findings on chest exam - New findings on examination of the chest with a stethoscope which suggest pneumonia (i.e., rales [crackles], rhonchi [wheezes], or bronchial breathing).

Nosocomial infection - An infection that was not present or incubating within the first 72 hours of admission to the facility. A nosocomial infection is considered "facility acquired" or "facility associated."

Appendices	Page 4 of 6
Appendix B. Glossary of Infection Control Terms and Definitions	Issued 7/1/99

Organism thought to be a contaminant (in blood culture) - Organisms which are common skin flora that can contaminate blood cultures as a result of improper aseptic technique. A single positive blood culture for one of these may be non-significant.

Other potentially infectious materials (OPIM) -

1. The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
2. Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and
3. HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Outbreak - An occurrence of similar illnesses that are in excess (generally 2 to 2 1/2 times) of the normal expectancy for a given location, and period of time. It can also be one case of an unusually virulent disease, two cases when persons do not share a room, OR two cases where one case is in the resident population and one case is in the employee population.

Pathogen - A microorganism capable of causing disease.

Pleuritic chest pain - Pain caused by inflammation of the pleura (lung lining): a sharp pain felt at any site over the rib-cage, which is brought on or made much worse by deep breathing.

Purulent - Containing the by-products of inflammation (pus).

Serous - With watery consistency (as opposed to purulent).

Suprapubic - Above the pubic arch (i.e., the area of the bladder, in the central lower area of the abdomen).

Tine test - Four tines or prongs 2 mm. long, attached to a plastic handle and coated with dip-dried old tuberculin (O.T.) which are pressed into the skin located on the inner surface of the forearm, where they deposit a dose of the tuberculin in the outer layer. **The tine test is no longer recommended for tuberculosis screening or testing.** The Mantoux test is the appropriate tuberculosis screening test.

Transmission - The spread of a microorganism from a colonized or infected person to a person previously free of the organism.

Universal Precautions (UP) - An approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids (see definition of “other potentially infectious materials”) are treated as if known to be infectious for HIV,

Appendices	Page 5 of 6
Appendix B. Glossary of Infection Control Terms and Definitions	Issued 7/1/99

HBV, and other bloodborne pathogens. Used as CDC intended, UP is implemented in conjunction with category specific isolation (contact, respiratory, enteric, AFB) or disease specific isolation for infections other than bloodborne.

Vesicular - Applied to a rash characterized by blister-like lesions (i.e., localized areas to elevated skin, usually only a few millimeters in size, containing a watery substance).

Appendices	Page 6 of 6
Appendix B. Glossary of Infection Control Terms and Definitions	Issued 7/1/99

DIVISION OF AGING RULES

(only those sections pertaining to infection control in long term care facilities have been reprinted here)

13 CSR 15-14.042 Administration and Resident Care Requirements for New and Existing Intermediate Care and Skilled Nursing Facilities

PURPOSE: This rule establishes standards for administration and resident care in an intermediate care or skilled nursing facility.

Editor's Note: All rules relating to long-term care facilities licensed by the Division of Aging are followed by a Roman Numeral notation which refers to the class (either Class I, II or III) of standard as designated in section 198.085.1, RSMo.

(6) The facility shall not knowingly admit or continue to care for residents whose needs cannot be met by the facility directly or in cooperation with outside resources. Facilities which retain residents needing skilled nursing care shall provide licensed nurses for these procedures. I/II

(13) The facility shall develop policies and procedures applicable to its operation to insure the resident's health and safety and to meet the resident's needs. At a minimum, there shall be policies covering personnel practices, admission, discharge, payment, medical emergency, treatment procedures, nursing practices, pharmaceutical services, social services, activities, dietary, housekeeping, infection control, disaster and accident prevention, resident's rights and handling resident's property. II/III

(20) The facility shall develop and offer an in-service orientation and continuing educational program for the development and improvement of skills of all the facility's personnel, appropriate for their job function. Facilities shall begin providing orientation on the first day of employment for all personnel including licensed nurses and other professionals. At a minimum, this shall cover prevention and control of infection, facility policies and procedures including emergency protocol, job responsibilities and lines of authority, confidentiality of resident information and preservation of resident dignity

including protection of the resident's privacy and instruction regarding the property rights of residents. Nursing assistants who have not successfully completed the classroom portion of the state-approved training program prior to employment shall not provide direct resident care without at least twelve (12) hours of supervised practical orientation. This shall include, in addition to the topics covered in the general orientation for all personnel, special focus on facility protocols as well as practical instruction on the care of the elderly and disabled. This orientation shall be supervised by a licensed nurse who is on duty in the facility at the time orientation is provided. II/III

(21) Nursing assistants who have not successfully completed the state-approved training program shall complete a comprehensive orientation program within sixty (60) days of employment.

This may be a part of a nursing assistant training program taught by an approved instructor in the facility. It shall include, at a minimum, information on communicable disease, handwashing and infection control procedures, resident rights, emergency protocols, job responsibilities and lines of authority. II/III

(22) The facility must ensure there is a system of in-service training for nursing personnel which identifies training needs related to problems, needs, care of residents and infection control and is sufficient to ensure staff's continuing competency. II/III

(27) The facility must develop and implement policies and procedures which ensure employees are screened to identify communicable diseases and ensure that employees diagnosed with communicable diseases do not expose residents to such diseases. The facility's policies and procedures must comply with the Missouri Department of Health's regulations pertaining to communicable diseases, specifically 19 CSR 20-20.010 through 19 CSR 20-20.100, as amended. II

INFECTION CONTROL GUIDELINES FOR LONG TERM CARE FACILITIES

Appendices	Page 2 of 2
Appendix C. Division of Aging Rules	Issued 7/1/99

(78) Residents shall be cared for by using acceptable infection control procedures to prevent the spread of infection. The facility shall make a report to the division within seven (7) days if a resident is diagnosed as having a communicable disease, as determined by the Missouri Department of Health and listed in the *Code of State Regulations* pertaining to communicable diseases, specifically 19 CSR 20-20.020, as amended. I/II

AUTHORITY: section 198.079, RSMo 1994. Original rule filed July 13, 1983, effective Oct. 13, 1983. For intervening history, please consult the Code of State Regulations. Amended: Filed Feb. 13, 1998, effective Sept. 30, 1998.*

**Original authority: 1979.*

13 CSR 15-15.042 Administrative, Personnel and Resident Care Requirements for New and Existing Residential Care Facilities I and II

PURPOSE: This rule establishes standards for administration, personnel and resident care in residential care facilities I and II.

Editor's Note: All rules relating to long-term care facilities licensed by the Division of Aging are followed by a Roman Numeral notation which refers to the class (either Class I, II or III) of standard as designated in section 198.085.1, RSMo.

(16) Personnel who have been diagnosed with a communicable disease may begin work or return to duty only with written approval by a physician or physician's designee which indicates any limitations. II

(17) The administrator/manager shall be responsible for monitoring the health of the employees. II/III

(18) Prior to or on the first day that a new employee works in the facility s/he shall receive orientation of at least one (1) hour appropriate to his/her job function. This shall include, at a minimum, job responsibilities, how to handle emergency situations, the importance of infection

control and handwashing, confidentiality of resident information, preservation of resident dignity, how to report abuse/neglect to the Division of Aging (1-800-392-0210), information regarding the Employee Disqualification List and instruction regarding the rights of residents and protection of property. II/III

(34) If at any time a resident or prospective resident is diagnosed with a communicable disease, the Division of Aging shall be notified within seven (7) days and if the facility can meet the resident's needs, the resident may be admitted or does not need to be transferred. Appropriate infection control procedures shall be followed if the resident remains in or is accepted by the facility. I/II

AUTHORITY: section 198.076, RSMo 1994. Original rule filed July 13, 1983, effective Oct. 13, 1983. For intervening history, please consult the Code of State Regulations. Amended: Filed Feb. 13, 1998, effective Sept. 30, 1998.*

**Original authority: 1979, amended 1984.*

Appendices	Page 1 of 2
Appendix D. Rules for Certified Facilities	Issued 7/1/99

HEALTH CARE FINANCING ADMINISTRATION (HCFA) RULES FOR CERTIFIED FACILITIES

(only those sections pertaining to infection control in certified long term
care facilities have been reprinted here)

Federal Regulation, 441

The facility must establish and maintain an infection control program designed to provide a safe, sanitary, and comfortable environment and to help prevent the development and transmission of disease and infection.

(a) Infection control program.

The facility must establish an infection control program under which it—

- (1) Investigates, controls and prevents infection in the facility:
- (2) Decides what procedures, such as isolation would be applied to an individual resident:
and
- (3) Maintains a record of incidents and corrective actions related to infections.

Federal Regulation, 442

- (1) When the infection control program determines that a resident needs isolation to prevent the spread of infection, the facility must isolate the resident.

Federal Regulation 443

- (2) The facility must prohibit employees with a communicable disease or infected skin lesions from direct contact with residents or their food, if direct contact will transmit the disease.

Federal Regulation, 444

- (3) The facility must require staff to wash their hands after each direct resident contact for which handwashing is indicated by accepted professional practice.

Appendices Appendix D. Rules for Certified Facilities	Page 2 of 2
	Issued 7/1/99

DEPARTMENT OF HEALTH TUBERCULOSIS TESTING RULE

19 CSR 20-20.100 Tuberculosis Testing for Residents and Workers in Long-Term Care Facilities and State Correctional Centers

PURPOSE: This rule establishes tuberculosis testing requirements for residents and workers in long-term care facilities and state correctional centers.

(1) General Requirements. Long-term care facilities and state correctional centers shall screen their residents and staff for tuberculosis using the Mantoux method purified protein derivative (PPD) five tuberculin unit (5 TU) test. Each facility shall be responsible for ensuring that all test results are completed and that documentation is maintained for all residents, employees, and volunteers.

(A) In interpreting this rule, long-term care facilities shall include employees, volunteers, and residents of residential care facilities I, residential care facilities II, intermediate care facilities and skilled nursing facilities as defined in section 198.006, RSMo.

(B) In interpreting this rule, state correctional centers shall include all employees and volunteers of the Missouri Department of Corrections and the residents of all correctional institutions operated by the Missouri Department of Corrections.

(C) Whenever tuberculosis is suspected or confirmed, or tuberculosis infection is diagnosed among residents, employees or volunteers, the Department of Health or local health authority shall be notified as required in 19 CSR 20-20.020(2).

(2) Long-Term Care Residents. Within one (1) month prior to or one (1) week after admission, all residents new to long-term care are required to have the initial test of a Mantoux PPD two (2)-step tuberculin test. If the initial test is negative, zero to nine millimeters (0–9 mm), the second test, which can be given after admission, should be given one to three (1)–(3) weeks later. Documentation of chest X-ray evidence ruling out tuberculosis disease within one (1) month prior to admission, along with an evaluation to rule out signs

and symptoms compatible with infectious tuberculosis, may be accepted by the facility on an interim basis until the Mantoux PPD two (2)-step test is completed.

(A) All skin test results are to be documented in millimeters (mm) of induration.

(B) Bacillus of Calmette and Guérin (BCG) vaccination shall not prevent residents from receiving a tuberculin test.

(C) A reaction of ten millimeters (10 mm) or more shall be considered as infected with *Mycobacterium tuberculosis* for an individual with a history of BCG vaccination.

(D) Evidence of tuberculosis infection is considered to be a reaction of five millimeters (5 mm) or more for all contacts to infectious tuberculosis or for an individual who is immunosuppressed or has abnormal chest X-ray findings consistent with old healed tuberculosis disease, and ten millimeters (10 mm) or more for all others.

(E) Residents with a negative, zero to nine millimeters (0–9 mm), Mantoux PPD two (2)-step test need not be routinely retested unless exposed to infectious tuberculosis or they develop signs and symptoms which are compatible with tuberculosis disease.

(F) Residents with a documented history of tuberculosis infection or an adequate course of preventive treatment shall not be required to be retested. Residents with a documented history of tuberculosis disease and adequate chemotherapy shall not be required to be retested. In the absence of documentation, a repeat test shall be required.

(G) All skin test results of five millimeters (5 mm) or more for contacts to infectious tuberculosis or for an individual who is immunocompromised, or ten millimeters (10 mm) or more for all others, shall require a chest X ray within one (1) week, or a review of the results of a chest X ray taken within the month prior to admission along with an evaluation to rule out signs and symptoms compatible with tuberculosis disease to rule out active pulmonary disease.

(H) Individuals with a positive finding presenting evidence of a recent, within one (1) month of the date

of admission, chest X ray need not be given a new X ray. However, the results of the X ray must be reviewed in the light of the additional information of the identification of tuberculosis infection as indicated by the Mantoux PPD skin test.

(I) An individual who is skin-test positive with a normal chest X ray should be considered for preventive medication. Those who complete a recommended course of preventive treatment and those for whom preventive treatment is not medically indicated need have no further testing for tuberculosis unless signs and symptoms which are compatible with tuberculosis disease are present.

(J) All residents of long-term care facilities who are exposed to a case of infectious tuberculosis or who develop signs and symptoms which are compatible with tuberculosis disease shall be medically evaluated. All long-term care facility residents shall have a documented annual evaluation to rule out signs and symptoms of tuberculosis disease.

(3) Long-Term Care Employees and Volunteers. All new long-term care facility employees and volunteers who work ten (10) or more hours per week are required to obtain a Mantoux PPD two (2)-step tuberculin test within one (1) month prior to starting employment in the facility. If the initial test is zero to nine millimeters (0–9 mm), the second test should be given as soon as possible within three (3) weeks after employment begins, unless documentation is provided indicating a Mantoux PPD test in the past and at least one (1) subsequent annual test within the past two (2) years. It is the responsibility of each facility to maintain a documentation of each employee's and volunteer's tuberculin status.

(A) All skin test results are to be documented in millimeters (mm) of induration.

(B) BCG vaccination shall not prevent employees and volunteers from receiving a tuberculin test.

(C) For an individual with a history of BCG vaccination, a reaction of ten millimeters (10 mm) or more shall be considered as infected with *Mycobacterium tuberculosis*.

(D) Evidence of tuberculosis infection is considered to be a reaction of five millimeters (5 mm) or more for all contacts to infectious tuberculosis or for an individual who is immunosuppressed or has abnormal chest X-ray findings consistent with old healed tuberculosis disease, and ten millimeters (10 mm) or more for all others.

(E) Employees and volunteers with an initial zero to nine millimeters (0–9 mm) Mantoux PPD two (2)-

step test shall be one (1)-step tuberculin tested annually and the results recorded in a permanent record.

(F) Employees and volunteers with a documented history of a positive Mantoux PPD test shall not be required to be retested. In the absence of documentation, a repeat test shall be required.

(G) All positive findings shall require a chest X ray to rule out active pulmonary disease.

(H) Individuals with a positive finding need not have repeat annual chest X-rays. They shall have a documented annual evaluation to rule out signs and symptoms of tuberculosis disease.

(I) An individual who is skin-test positive with a normal chest X ray should be considered for preventive medication. Those who complete a recommended course of preventive medication need have no further testing for tuberculosis unless signs and symptoms which are compatible with tuberculosis disease are present.

(J) All employees and volunteers of long-term care facilities who are exposed to a case of infectious tuberculosis or who develop signs and symptoms which are compatible with tuberculosis disease shall be medically evaluated. All employees or volunteers of these facilities shall have a documented annual evaluation to rule out signs and symptoms of tuberculosis disease.

(4) State Correctional Centers Residents. All residents of state correctional centers are required to obtain a Mantoux PPD two (2)-step tuberculin test upon admission to rule out tuberculosis. If the initial test is negative, zero to nine millimeters (0–9 mm), the second test should be given within ninety (90) days of entrance into the state correctional system.

(A) All skin test results are to be documented in millimeters (mm) of induration.

(B) BCG vaccination shall not prevent residents from receiving a tuberculin test.

(C) For an individual with a history of BCG vaccination, a reaction of ten millimeters (10 mm) or more shall be considered as infected with *Mycobacterium tuberculosis*.

(D) A positive test is defined as having a reaction of five millimeters (5 mm) or more for all contacts to infectious tuberculosis or for an individual who is immunosuppressed or has abnormal chest X-ray findings consistent with old healed tuberculosis disease, and ten millimeters (10 mm) or more for all others.

INFECTION CONTROL GUIDELINES FOR LONG TERM CARE FACILITIES

Appendices	Page 3 of 4
Appendix E. Department of Health Tuberculosis Testing Rule	Issued 7/1/99

(E) Individuals with an initial negative zero to nine millimeters (0–9 mm) Mantoux PPD two (2)-step test shall be one (1)-step tuberculin tested annually and the results recorded in a permanent record.

(F) Individuals with a documented history of a positive Mantoux PPD test shall not be required to be retested. In the absence of documentation, a repeat test shall be required.

(G) All positive findings shall require a chest X ray to rule out active pulmonary disease.

(H) Individuals with a positive finding need not have repeat annual chest X rays. They shall have a documented annual evaluation to rule out signs and symptoms of tuberculosis disease.

(I) An individual who is skin-test positive with a normal chest X ray should be considered for preventive medication. Those who complete a recommended course of preventive medication need have no further testing for tuberculosis unless signs and symptoms which are compatible with tuberculosis disease are present.

(J) All residents of state correctional centers who are exposed to a case of infectious tuberculosis or who develop signs and symptoms which are compatible with tuberculosis disease shall be medically evaluated. All residents shall have a documented annual evaluation to rule out signs and symptoms of tuberculosis disease.

(5) Missouri Department of Corrections New Employees and Volunteers. All new employees and volunteers who work ten (10) or more hours per for the Missouri Department of Corrections are required to obtain a Mantoux PPD two (2)-step tuberculin test within three (3) weeks of starting employment. If the initial test is negative, zero to nine millimeters (0–9 mm), the second test should be given one to three (1–3) weeks after the initial test. It is the responsibility of each state correctional center to maintain documentation of each employee's or volunteer's tuberculin status.

(A) All skin test results are to be documented in millimeters (mm) of induration.

(B) BCG vaccination shall not prevent new employees and volunteers from receiving a tuberculin test.

(C) For an individual with a history of BCG vaccination, a significant reaction of ten millimeters (10 mm) or more shall be considered as infected with *Mycobacterium tuberculosis*.

(D) A positive test is defined as having a reaction of five millimeters (5 mm) or more for all contacts to infectious tuberculosis or for an individual who is immunosuppressed or has abnormal chest X-ray findings consistent with old healed tuberculosis disease, and ten millimeters (10 mm) or more for all others.

(E) Employees and volunteers with a negative zero to nine millimeters (0–9 mm) Mantoux PPD two (2)-step test shall be one (1)-step tuberculin tested annually and the results recorded in a permanent record.

(F) Employees and volunteers with a documented history of a positive Mantoux PPD test shall not be required to be retested. In the absence of documentation, a repeat test shall be required.

(G) All positive findings shall require a chest X ray to rule out active pulmonary disease.

(H) Individuals with a positive finding need not have repeat annual chest X rays. They shall have a documented annual evaluation to rule out signs and symptoms of tuberculosis disease.

(I) An individual who is skin test positive with a normal chest X ray should be considered for preventive medication. Those who complete a recommended course of preventive medication need have no further testing for tuberculosis unless signs and symptoms which are compatible with tuberculosis disease are present.

(J) All employees and volunteers of state correctional centers who are exposed to a case of infectious tuberculosis or who develop signs and symptoms which are compatible with tuberculosis disease shall be medically evaluated. All employees and volunteers shall have a documented annual evaluation to rule out signs and symptoms of tuberculosis disease.

(6) This rule will expire June 30, 2000.

*Auth: section 199.350, RSMo (1994). * Original rule filed April 17, 1995, effective Nov. 30, 1995.*

**Original authority 1992.*

Appendices Appendix E. Department of Health Tuberculosis Testing Rule	Page 4 of 4
	Issued 7/1/99

DEPARTMENT OF NATURAL RESOURCES RULES

(only those sections pertaining to infectious waste in long term care facilities have been reprinted here)

10 CSR 80-7.010 Infectious Waste/Management

PURPOSE: *This rule pertains to the management and treatment of infectious waste.*

PUBLISHER'S NOTE: *The publication of the full text of the material that the adopting agency has incorporated by reference in this rule would be unduly cumbersome or expensive. Therefore, the full text of that material will be made available to any interested person at both the Office of the Secretary of State and the office of the adopting agency, pursuant to section 536.031.4, RSMo. Such material will be provided at the cost established by state law.*

(1) Applicability.

(A) Definition. Infectious waste means waste capable of producing an infectious disease because it contains pathogens of sufficient virulence and quantity so that exposure to the waste by a susceptible human host could result in an infectious disease. These wastes include isolation wastes, cultures and stocks of etiologic agents, blood and blood products, pathological wastes, other contaminated wastes from surgery and autopsy, contaminated laboratory wastes, sharps, dialysis unit wastes, discarded biological materials known or suspected to be infectious; provided, however, that infectious waste does not mean waste treated to department specifications.

1. For the purposes of this chapter, a generator means any single office (doctor's office, dentist's office, and the like) or facility (hospital, nursing home, mortuary, and the like), whose act or process first causes an infectious waste. For purposes of tracking and fees, a transfer station permitted as an infectious waste processing facility becomes the generator when the infectious waste is transported for further processing.

2. Small quantity generators, i.e., persons generating one hundred kilograms (100 kg) or less per month of infectious waste, shall refer to 19 CSR 20-20.010 for the Department of Health definition of those categories of waste to be managed as an infectious waste.

(B) Disposal of Infectious Waste. All sharps shall be packaged in rigid, leak-resistant and puncture-resistant containers and sealed prior to disposal.

1. Infectious waste treated to render it innocuous may be disposed as a solid waste provided the treater certifies to the transporter, if other than the generator, and certifies to the sanitary landfill operator that the waste has been rendered innocuous as required by section 260.203, RSMo. (Note: Treated infectious waste is not required to be transported in accordance with the requirements of section (4) of this rule.)

2. Certification of treated infectious waste, at a minimum, shall contain the following information: the name, mailing address, location (when different from the mailing address) and phone number of the office/facility treating the infectious waste; the printed name and the signature of the facility/office manager or person responsible for the treatment process; a brief description of the treated waste (sharps in metal containers, sharps in heavy gauge plastic containers, incinerator ash, laboratory wastes in autoclave bags); and a brief description of the method(s) of treatment (for example, steam sterilization, incineration, disinfection with bleach solution). In addition to these minimum requirements, the generator need only include a statement that the waste has been managed in accordance with the Missouri Solid Waste Management Law and rules and may legally be placed in a sanitary landfill. The certification shall be revised when changes in the operation of the office/facility result in a change to the information required by this paragraph.

Appendices	Page 2 of 2
Appendix F. Department of Natural Resources Rules	Issued 7/1/99

(C) Exemptions

3. A person generating one hundred (100) kg or less per month of infectious waste as defined in 19 CSR 20-20.010 and who transports his/her own infectious waste for processing is exempt from the transportation and fee requirements of this rule, except that the vehicle used for transport of the infectious waste shall be a closed and secured vehicle.

July 30, 1997. Amended: Filed Dec. 15, 1997, effective Aug. 30, 1998.

**Original authority: 260.203, RSMo (1986), amended 1988, 1992, 1993 and 260.225, RSMo (1972), amended 1975, 1986, 1988, 1990, 1993, 1995.*

(2) Packaging of Infectious Waste. Prior to transport, all infectious waste shall be placed in rigid or semi-rigid, leak-resistant containers clearly marked with the universal biohazard symbol prominently displayed and labeled Infectious Waste or Biohazard Waste and sealed. All containers shall be closed in such a manner as to completely contain all waste and the outside of the container shall be kept free of contamination. For the purpose of this rule, leak-resistant containers are defined as containers that are closable with a tight fitting lid and are leakproof on the bottom and sides. Containers meeting the requirements of 29 CFR 1910.1030 are acceptable.

(A) Plastic bags. Plastic bags shall be tear resistant and leak resistant. Plastic bags shall not be used as primary containers for transportation of infectious waste. Infectious waste contained in plastic bags shall be placed within rigid or semi-rigid containers prior to transport.

(B) Sharps containers. Sharps shall be packaged in rigid, leak-resistant and puncture-resistant containers and sealed.

(C) Glass Containers. Glass containers shall not be used as primary containers for transportation of infectious waste. Glass containers must be placed into a rigid or semi-rigid leak-resistant container and protected from breakage.

(D) Reusable containers. Reusable containers shall be constructed of either heavy wall plastic or noncorrosive metal. Each container shall be cleaned and sanitized before it is reused.

*AUTHORITY: sections 260.203, RSMo (Cum. Supp. 1992) and 260.225, RSMo (Cum. Supp. 1990). * Original rule filed Oct. 15, 1987, effective March 25, 1988. Amended: Filed Aug. 15, 1988, effective Dec. 29, 1988. Amended: Filed June 3, 1993, effective Jan. 31, 1994. Amended: Filed Oct. 10, 1996, effective*

Appendices	Page 1 of 2
Appendix G. Department of Health Infectious Waste Definitions	Issued 7/1/99

DEPARTMENT OF HEALTH INFECTIOUS WASTE DEFINITIONS

(only those definitions pertaining to infectious waste have been reprinted here)

19 CSR 20-20.010 Definitions Relating to Communicable, Environmental and Occupational Diseases

PURPOSE: This rule defines terminology used throughout this chapter and defines terms related to infectious waste.

*AUTHORITY: sections 192.006, RSMo (Cum. Supp. 1996), 192.020 and 260.203, RSMo (1994). * This rule was previously filed as 13 CSR 50-101.010. Original rule filed July 15, 1948, effective Sept. 13, 1948. For intervening history, please consult the **Code of State Regulations**. Amended: Filed Sept. 15, 1995, effective April 30, 1996.*

(20) Infectious waste is waste capable of producing an infectious disease. For a waste to be infectious, it must contain pathogens with sufficient virulence and quantity so that exposure to the waste by a susceptible host could result in an infectious disease. Infectious waste generated by small quantity generators shall include the following categories:

**Original authority: 192.006, RSMo (1993), amended 1995; 192.020, RSMo (1939), amended 1945, 1951; and 260.203, RSMo (1986), amended 1988, 1992, 1993.*

(A) Sharps—all discarded sharps including hypodermic needles, syringes and scalpel blades. Broken glass or other sharp items that have come in contact with material defined as infectious are included;

(B) Cultures and stocks of infectious agents and associated biologicals—included in this category are all cultures and stocks of infectious organisms as well as culture dishes and devices used to transfer, inoculate and mix cultures; and

(C) Other wastes—those wastes designated by the medical authority responsible (physician, podiatrist, dentist, veterinarian) for the care of the patient which may be capable of producing an infectious disease.

(27) Person is any individual, partnership, corporation, association, institution, city, county, other political subdivision authority, state agency or institution or federal agency or institution.

(32) Small quantity generator of infectious waste is any person generating one hundred kilograms (100 kg) or less of infectious waste per month and as regulated in 10 CSR 80.

Appendices	Page 2 of 2
Appendix G. Department of Health Infectious Waste Definitions	Issued 7/1/99

DEPARTMENT OF HEALTH HEALTH CARE PROVIDER RULES

19 CSR 20-26.050 Preventing Transmission of Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV) from Health Care Workers to Patients

PURPOSE: This rule establishes training requirements relating to the prevention of transmission of human immunodeficiency virus, hepatitis B virus and other blood-borne pathogens from infected health care workers to patients as defined in section 191.694, RSMo.

Editor's Note: The secretary of state has determined that the publication of this rule in its entirety would be unduly cumbersome or expensive. The entire text of the material referenced has been filed with the secretary of state. This material may be found at the Office of the Secretary of State or at the headquarters of the agency and is available to any interested person at a cost established by state law.

(1) The following definitions shall be used in the interpretation of this rule:

(A) Community-based means practice in any clinic, group practice or solo practice not licensed under Chapters 197 and 198, RSMo where health care, including dentistry and podiatry, is provided;

(B) Department means the Missouri Department of Health;

(C) Director means the director of the department or his/her designee;

(D) Employed means to be professionally affiliated with a facility either by contract, direct employment or extension of professional privileges;

(E) HBV means hepatitis B virus;

(F) Health care facilities means those facilities licensed under Chapters 197 and 198, RSMo;

(G) Health care professional means a member of any of the professional groups regulated by Chapters 330, 332 and 335, RSMo, and sections 334.010–334.265, RSMo;

(H) HIV means human immunodeficiency virus; and

(I) Invasive procedures shall be defined as in 191.650(9), RSMo. Phlebotomy and insertion of intravenous lines which do not involve surgical incision are not considered invasive procedures.

(2) Health care professionals in both health care facility-based and community-based practice settings shall adhere to the training requirements contained in section 191.694, RSMo. The department shall investigate complaints of noncompliance in facility-based practice settings. Complaints of noncompliance in community-based practice settings shall be referred to the appropriate licensing authority.

(3) Health care professionals performing invasive procedures who do not receive training in a health care facility regarding infection control procedures, universal precautions and prevention of percutaneous injuries shall obtain that training elsewhere on an annual basis. Training shall be in compliance with Occupational Safety and Health Administration (OSHA) requirements in 29 CFR 1910.1030. Training shall also be in compliance with section 191.694, RSMo and with recommendations published by the Centers for Disease Control and Prevention in the *Morbidity and Mortality Weekly Report: Recommendations for Prevention of HIV Transmission in Health-Care Settings*, August 21, 1987; *Update: Universal Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus, and Other Bloodborne Pathogens in Health-Care Settings*, June 24, 1988; and *Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health-Care and Public-Safety Workers*, June 23, 1989. Documents that validate the completion of that training shall be maintained by the health care professional for a period of three (3) years and shall be made available to the department upon request.

Appendices	Page 2 of 6
Appendix H. Department of Health Health Care Provider Rules	Issued 7/1/99

(4) This rule expires on June 30, 2002.

AUTHORITY: section 191.694.4., RSMo (1994). Original rule filed April 17, 1995, effective Nov. 30, 1995.*

**Original authority 1992.*

19 CSR 20-26.060 Voluntary Evaluation for Human Immunodeficiency Virus (HIV)- and Hepatitis B Virus (HBV)-Infected Health Care Professionals Who Perform Invasive Procedures

PURPOSE: This rule establishes procedures for the voluntary evaluation of human immunodeficiency virus- and hepatitis B virus-infected health care professionals who perform invasive procedures in order to determine whether practice restrictions or limitations should be applied, as defined in section 191.700, RSMo.

(1) The definitions in 19 CSR 20-26.050 shall be used in the interpretation of this rule.

(2) Any health care professional who performs invasive procedures is advised to know his/her human immunodeficiency virus (HIV) antibody status and hepatitis B surface antigen (HBsAg) status. If HBsAg is present, the presence or absence of hepatitis B e antigen (HBeAg) shall be determined. If a significant occupational exposure occurs which could place the health care professional at risk of acquiring HIV or hepatitis B virus (HBV) infection, appropriate post-exposure evaluation should be undertaken.

(3) HIV- or HBV-infected health care professionals who perform invasive procedures may be voluntarily evaluated by an expert review panel appointed by the department according to section 191.700, RSMo. This panel shall follow subsections (3)(A)–(P) of this rule.

(A) Health care professionals infected with HIV or HBV who perform invasive procedures and who choose to be evaluated by an expert review panel appointed by the department according to section 191.700, RSMo shall apply for the evaluation in writing to the director.

Directors of health care facilities (chief administrative officers or equivalents) allowed by 191.700.2(1), RSMo to seek evaluation of infected health care professionals who perform invasive procedures shall, with the consent of the infected health care professional and after consultation with the professional's private physician, apply in writing to the director of the Department of Health.

(B) Upon receipt of a written request for evaluation, the director shall appoint an expert review panel by utilizing the following criteria:

1. The panel shall include those individuals specified by 191.700.2(2)(a)–(d), RSMo and may include additional individuals if the director determines this is necessary; and

2. The director shall seek input from appropriate professional organizations in making his/her appointments.

(C) The subject of the evaluation shall provide the director with a list of all health care facilities and community-based practices, regardless of location, where the subject performs invasive procedures.

(D) The expert review panel shall utilize the following to evaluate the health care professional's practice:

1. Criteria specified in 191.700.2(3), RSMo;

2. Verification of the health care professional's licensure status;

3. Current, scientific evidence that is available; and

4. Panel members' professional judgments.

(E) Panel members shall be subject to the requirements of section 191.656, RSMo regarding the confidentiality of information on an HIV-infected health care professional's infection status.

(F) The health care professional shall be allowed to appear before the panel and present any information which s/he believes to be pertinent to the panel's task. The health care professional's personal physician(s) and any other individual(s) the health care professional believes can provide pertinent input into the process shall be allowed to appear before the panel.

(G) The panel may recommend that restrictions or limitations be placed on the practice of the health care professional.

Appendices	Page 3 of 6
Appendix H. Department of Health Health Care Provider Rules	Issued 7/1/99

(H) The panel shall require the health care professional to notify any affected patient in a timely manner whenever a parenteral or mucous membrane exposure to the health care professional's blood occurs.

(I) The panel's findings and recommendations shall be conveyed in writing to the health care professional and to the director.

(J) The director shall disclose to the chief administrative officer or equivalent individual in each health care facility or community-based practice where the health care professional is performing invasive procedures any restrictions or limitations placed on his/her practice by the panel.

(K) If the health care professional seeks to affiliate with an additional health care facility or community-based practice, regardless of its location, where s/he will be performing invasive procedures, s/he shall disclose to the chief administrative officer or equivalent individual in that facility or practice the findings of the review panel, and any restrictions or limitations placed on his/her practice by the panel, prior to the affiliation and the provision of patient care. S/he shall also advise the department of the new practice location.

(L) If the health care professional plans to begin performing invasive procedures at a health care facility or community-based practice where s/he is currently affiliated but not presently performing those procedures, s/he shall disclose to the chief administrative officer or equivalent individual in that facility or practice the findings of the review panel, and any restrictions or limitations placed on his/her practice by the panel, prior to the performance of any invasive procedures, and report his/her intention to begin performing invasive procedures in writing to the director prior to beginning to perform these procedures.

(M) If the review panel places restrictions or limitations on the health care professional's practice, it shall be the responsibility of each health care facility where s/he is employed and performing invasive procedures to monitor him/her for compliance at appropriate intervals, at least annually, based on his/her medical status and the types and frequencies of invasive procedures s/he performs. If a facility finds the health care professional to be noncompliant, it shall report this in writing to the appropriate state

board, as provided under Chapters 330, 332, 334 or 335, RSMo, and to the director.

(N) If the review panel places restrictions or limitations on the practice of a health care professional who performs invasive procedures in a community-based setting, it shall be the responsibility of the department to monitor him/her for compliance in this setting at appropriate intervals, at least annually, based on his/her medical status and the types and frequencies of invasive procedures s/he performs. If the department finds the health care professional to be noncompliant, it shall report this in writing to the appropriate state board, as provided under Chapters 330, 332, 334 or 335, RSMo, and to the director.

(O) If the director becomes aware that the infected health care professional is noncompliant with practice restrictions or limitations at any location where s/he is performing invasive procedures, the director shall report this non-compliance to the chief administrative officer or equivalent individual in each health care facility and community-based practice where the health care professional performs invasive procedures.

(P) The panel shall require, as necessary, that the infected health care professional undergo periodic reviews to determine if the decision to place or not to place restrictions or limitations on his/her practice needs to be modified because of changes in his/her medical condition or some other relevant circumstance. If a review results in the panel making such a modification, this modification shall be conveyed in writing to the health care professional and the director. If the modification results in restrictions or limitations, or further restrictions or limitations, being placed on the health care professional, the director shall disclose this modification to the chief administrative officer or equivalent individual in each health care facility or community-based practice where the health care professional is performing invasive procedures.

(Q) If restrictions or limitations have been placed on a health care professional's practice by the panel and if later there is a change in the individual's medical condition or some other relevant circumstance, and as a result s/he believes that the restrictions or limitations should be modified, s/he may request in writing to the director that the panel consider such a modification. A similar written request may also be

Appendices	Page 4 of 6
Appendix H. Department of Health Health Care Provider Rules	Issued 7/1/99

made by the director or chief administrative officer of a health care facility with the consent of the infected health care professional and after consultation with his/her private physician. The panel shall review the information and determine whether modification is necessary. If a modification is made, this shall be conveyed in writing to the health care professional and the director. If the modification results in further restrictions or limitations being placed on the health care professional, the director shall disclose this modification to the chief administrative officer or equivalent individual in each health care facility or community-based practice where the health care professional is performing invasive procedures.

(4) As described in 191.700.2(5)(d), RSMo, a health care facility peer review panel may evaluate HIV- or HBV-infected health care professionals who perform invasive procedures. This evaluation process may be accessed directly by an infected health care professional, or by the director of a health care facility with the consent of the infected health care professional and after consultation with his/her private physician. This evaluation shall take place as follows:

(A) If a health care facility regulated under sections 197.010–197.120, RSMo maintains or establishes an internal peer review panel for the evaluation of HIV- or HBV-infected health care professionals who perform invasive procedures, this panel shall–

1. Maintain the confidentiality of the infected health care professional. Panel members shall be subject to the requirements of section 191.656, RSMo regarding the confidentiality of information on an HIV-infected health care professional's infection status;

2. Conduct an evaluation of the infected health care professional and his/her practice. This evaluation and any recommendations shall be based on the premise that HIV or HBV infection alone does not justify limiting the health care professional's duties;

3. Allow the health care professional to appear before the peer review panel and present any information which s/he believes to be pertinent to the panels task. The health care professional's personal physician(s), as well as any other individual(s) the health care professional believes can provide input into the

process, shall be allowed to appear before the panel;

4. Establish, utilizing the criteria specified in subsection (3)(D) of this rule, whether restrictions or limitations shall be placed on the practice of the health care professional. If the panel is uncertain about whether a specific procedure may pose some risk of HIV or HBV transmission, it may recommend that this procedure be performed only after the patient has been informed of the health care professional's infection status;

5. Require the health care professional to notify any affected patient in a timely manner whenever a parenteral or mucous membrane exposure to the health care professional's blood occurs;

6. Report its findings and recommendations in writing to the health care professional;

7. Report its findings and recommendations in writing to the director including how the evaluation process was conducted. The department shall review the report to determine concurrence with 191.700.2(5)(d), RSMo and this rule. Results of the department's review shall be reported back to the facility. In the event the health care professional later seeks an evaluation by a department-appointed panel, the findings and recommendations of the facility's peer review panel shall be included as part of this evaluation; and

8. Require, as necessary, that the infected health care professional undergo periodic reviews to determine if the decision to place or not to place restrictions or limitations on his/her practice needs to be modified because of changes in his/her medical condition or some other relevant circumstance. If a review results in the panel making such a modification, this modification shall be conveyed in writing to the health care professional and the director; and

(B) When a facility's internal peer review panel conducts a review in concurrence with 191.700.2(5)(d), RSMo and this rule, the following shall be performed:

1. The infected health care professional shall provide a list to the director of all other health care facilities and community-based practices, regardless of location, where s/he performs invasive procedures. The director shall disclose to the chief administrative officer or equivalent individual in each of these other facilities and

practices any restrictions or limitations placed on the health care professional's practice by the panel;

2. If the health care professional seeks to affiliate with an additional health care facility or community-based practice, regardless of its location, where s/he will be performing invasive procedures, s/he shall disclose to the chief administrative officer or equivalent individual in that facility or practice the findings of the peer review panel, and any restrictions or limitations placed on his/her practice by the panel, prior to the affiliation and the provision of patient care, and notify the department of the new practice location;

3. If the health care professional plans to begin performing invasive procedures at a health care facility or community-based practice where s/he is currently affiliated but not presently performing those procedures, s/he shall disclose to the director or chief administrative officer in that facility or practice the findings of the peer review panel, and any restrictions or limitations placed on his/her practice by the panel, prior to the performance of any invasive procedures, and report the change in practice to the department;

4. It shall be the responsibility of each health care facility where the health care professional is employed and performing invasive procedures to monitor him/her for compliance with the practice restrictions or limitations at appropriate intervals, at least annually, based on his/her medical status and the types and frequencies of invasive procedures s/he performs. If a facility finds the health care professional to be noncompliant, it shall report this in writing to the appropriate state board, as provided under Chapters 330, 332, 334 or 335, RSMo, and to the director;

5. If the health care professional also performs invasive procedures in a community-based setting, it shall be the responsibility of the department to monitor him/her for compliance with the restrictions or limitations in this setting at appropriate intervals, at least annually, based on his/her medical status and the types and frequencies of invasive procedures s/he performs. If the department finds the health care professional to be noncompliant, it shall report this in writing to the appropriate state board, as provided under Chapters 330, 332, 334 or 335, RSMo, and to the director;

6. If the director becomes aware that the infected health care professional is noncompliant with practice restrictions or limitations at any location where s/he is performing invasive procedures, the director shall report this noncompliance to the director or chief administrator in each health care facility and community-based practice where the health care professional performs invasive procedures;

7. If the peer review panel, as a result of a periodic review of the infected health care professional's status, makes a modification in its recommendations that results in restrictions or limitations, or further restrictions or limitations, being placed on the health care professional, the director shall disclose this modification to the chief administrative officer or equivalent individual in any other health care facilities or community-based practices where the health care professional is performing invasive procedures; and

8. If restrictions or limitations have been placed on a health care professional's practice by the peer review panel and if later there is a change in the health care professional's medical condition or some other relevant circumstance, and as a result s/he believes that the restrictions or limitations should be modified, s/he may request that the panel consider the modification. The panel shall review the pertinent evidence and determine whether such modification shall be made. If a modification is made, this shall be conveyed in writing to the health care professional and the director. If the modification results in further restrictions or limitations being placed on the health care professional, the director shall disclose the modification to the chief administrative officer or equivalent individual in any other health care facilities or community-based practices where the health care professional is performing invasive procedures.

(5) This rule expires on June 30, 2002.

AUTHORITY: section 191.700.2., RSMo (1994). Original rule filed April 17, 1995, effective Nov. 30, 1995.*

**Original authority 1992.*

Appendices	Page 6 of 6
Appendix H. Department of Health Health Care Provider Rules	Issued 7/1/99

DEPARTMENT OF HEALTH REPORTING RULE

19 CSR 20-20.020 Reporting Communicable, Environmental and Occupational Diseases

PURPOSE: *This rule designates the diseases, disabilities, conditions and findings that must be reported to the local health authority or the Department of Health. It also establishes when they must be reported.*

Editor's Note: The following material is incorporated into this rule by reference:

1) 56 Federal Register 52166–52175, October 17, 1991 (Washington: U.S. Government Printing Office, 1991).

In accordance with section 536.031(4), RSMo, the full text of material incorporated by reference will be made available to any interested person at the Office of the Secretary of State and the headquarters of the adopting state agency.

(1) Category I diseases or findings shall be reported to the local health authority or to the Department of Health within twenty-four (24) hours of first knowledge or suspicion by telephone, facsimile or other rapid communication. Category I diseases or findings are—

Acute chemical poisoning as defined in 56 FR 52166–52175

Anthrax

Botulism

Brucellosis

Cholera

Diphtheria

Group A Streptococcal disease, invasive

Haemophilus influenzae disease, invasive, including meningitis

Hantavirus

Hemolytic Uremic Syndrome, post-diarrheal

Hepatitis A

Hyperthermia

Hypothermia

Measles

Meningococcal disease, invasive, including meningitis

Methemoglobinemia

Outbreaks or epidemics of any illness, disease or condition that may be of public health concern

Pesticide poisoning

Plague

Poliomyelitis

Psittacosis

Rabies

Rubella

Syphilis

Tuberculosis disease

Typhoid fever

(2) Category II diseases or findings shall be reported to the local health authority or the Department of Health within three (3) days of first knowledge or suspicion. Category II diseases or findings are—

Acquired immunodeficiency syndrome (AIDS)

Arsenic poisoning

Cadmium poisoning

Campylobacter infections

Carbon monoxide poisoning

Chancroid

Chlamydia trachomatis infections

Cryptosporidiosis

E. coli O157:H7

Ehrlichiosis

Encephalitis, arthropod-borne

Giardiasis

Gonorrhea

Hepatitis B, acute

Hepatitis B Surface Antigen (prenatal HBsAg) positive screening of pregnant women

Hepatitis non-A, non-B

Human immunodeficiency virus (HIV) infection, confirmed

Influenza

Kawasaki disease

Lead exposure greater than or equal to ten micrograms per deciliter ($\geq 10 \mu\text{g/dl}$) in persons under age eighteen (< 18) or greater than or equal to twenty-five micrograms per deciliter ($\geq 25 \mu\text{g/dl}$) in persons age eighteen or greater (≥ 18)

Legionellosis

Leptospirosis

Listeria monocytogenes

Lyme disease

Malaria

Meningitis, aseptic

Mercury poisoning

Mumps

Appendices	Page 2 of 4
Appendix I. Department of Health Reporting Rule	Issued 7/1/99

Mycobacterial disease other than tuberculosis (MOTT)
 Nosocomial outbreaks
 Occupational lung diseases including silicosis, asbestosis, byssinosis, farmer's lung and toxic organic dust syndrome
 Pertussis
 Respiratory diseases triggered by environmental factors including environmentally or occupationally induced asthma and bronchitis
 Reye syndrome
 Rocky Mountain spotted fever
 Salmonella infections
 Shigella infections
 Tetanus
 T-Helper (CD4+) lymphocyte count on any person with HIV infection
 Toxic shock syndrome
 Trichinosis
 Tuberculosis infection
 Tularemia
 Yersinia enterocolitica

(3) The occurrence of any outbreak or epidemic of any illness or disease which may be of public health concern, including any illness in a food handler that is potentially transmissible through food, shall be reported to the local health authority or the Department of Health by telephone, facsimile, or other rapid communication within twenty-four (24) hours of first knowledge or suspicion.

(4) A physician, physician's assistant, nurse, hospital, clinic, or other private or public institution providing care to any person who is suffering from any disease, condition or finding listed in sections (1)–(3) of this rule, or who is suspected of having any of those diseases, conditions or findings shall make a case report to the local health authority or the Department of Health or cause a case report to be made by their designee within the specified time.

(A) A physician, physician's assistant, or nurse providing care to any patient, with any disease, condition or finding listed in sections (1)–(3) of this rule, in an institution may authorize, in writing, the administrator or designee of the institution to submit case reports on patients attended by the physician, physician's assistant, or nurse at the institution. But under no other circumstances shall the physician,

physician's assistant, or nurse be relieved of this reporting responsibility.

(B) Duplicate reporting of the same case by health care providers in the same institution is not required.

(5) A case report as required in section (4) of this rule shall include the patient's name, address, age, sex, race, phone number, name of the disease, condition or finding diagnosed or suspected, the date of onset of the illness, name and address of the treating facility (if any) and the attending physician, any appropriate laboratory results, name and address of the reporter, and the date of report.

(A) A report of an outbreak or epidemic as required in section (3) of this rule shall include the diagnosis or principal symptoms, the approximate number of cases, the local health authority jurisdiction within which the cases occurred, the identity of any cases known to the reporter, and the name and address of the reporter.

(6) Any person in charge of a public or private school, summer camp or day care facility shall report to the local health authority or the Department of Health the presence or suspected presence of any diseases or findings listed in sections (1)–(3) of this rule according to the specified time frames.

(7) All local health authorities shall forward to the Department of Health reports of all diseases or findings listed in sections (1)–(3) of this rule. All reports shall be forwarded within twenty-four (24) hours after being received, according to procedures established by the Department of Health director. The local health authority shall retain from the original report any information necessary to carry out the required duties in 19 CSR 20-20.040(2) and (3).

(8) Information from patient medical records received by the Department of Health is to be considered confidential records and not public records.

(9) Reporters specified in section (4) of this rule will not be held liable for reports made in good faith in compliance with this rule.

Appendices	Page 3 of 4
Appendix I. Department of Health Reporting Rule	Issued 7/1/99

(10) This rule will expire on June 30, 2000.

*AUTHORITY: sections 192.006, RSMo (Cum. Supp. 1996) and 192.020, 210.040 and 210.050, RSMo (1994). * This rule was previously filed as 13 CSR 50-101.020. Original rule filed July 15, 1948, effective Sept. 13, 1948. For intervening history, please consult the **Code of State Regulations**. Amended: Filed Sept. 15, 1995, effective April 30, 1996.*

**Original authority: 192.006, RSMo (1993), amended 1995; 192.020, RSMo (1939), amended 1945, 1951; 210.040, RSMo (1941), amended 1993; and 210.050, RSMo (1941), amended 1993.*

Appendices	Page 4 of 4
Appendix I. Department of Health Reporting Rule	Issued 7/1/99

Appendices	
Appendix J. Guidelines for Scabies Prevention and Control	Issued 7/1/99

**DEPARTMENT OF HEALTH
SECTION OF COMMUNICABLE DISEASE CONTROL AND
VETERINARY PUBLIC HEALTH**

GUIDELINES FOR SCABIES PREVENTION AND CONTROL

FIRST DRAFT: DECEMBER 26, 1989
REVISED: FEBRUARY 28, 1995

CARYL COLLIER, RN, MPH, CIC

TABLE OF CONTENTS

Introduction	1
A. Scabies Prevention Programs in Health Care Facilities	1
B. Equipment Needed for Skin Scrapings	2
C. Procedure for Doing Skin Scrapings	2
D. Surveillance and Collation of Epidemiologic Variables for Scabies	3
E. General Recommendations	4
F. Selective Treatment Protocol	5
G. Mass Treatment Protocol	5
H. Application of Scabicides and Steroid Creams	6
I. Isolation and Environmental Control for Conventional Scabies.....	10
J. Isolation and Environmental Control for Norwegian Scabies	11

References

Appendix A. – Patient/Resident Survey Form for Rash Condition

Appendix B. – Employee Questionnaire For Rash Condition

Appendix C. – Linelisting

Appendix D. – Definitions of Scabies Infestations

Appendix E. – Nosocomial Outbreak Report Forms

**MISSOURI DEPARTMENT OF HEALTH
SECTION OF COMMUNICABLE DISEASE CONTROL
AND VETERINARY PUBLIC HEALTH
GUIDELINES FOR SCABIES PREVENTION AND CONTROL**

Introduction

Since 1989, approximately 90 clusters or outbreaks of scabies have been reported to the Bureau of Communicable Disease Control. The majority of these reports have come from long term care facilities (LTCF's), although there are occasional reports from hospitals, day care centers and schools. Requests for assistance in resolving outbreaks in some LTCF's have uncovered probable scabies infestations lasting a year or longer. We have had reports of symptoms developing ten days following exposure; however, most cases have an incubation period of four to six weeks for a primary infestation.

A long incubation period (during which time the mite { *sarcoptes scabiei* var. *hominis* } is able to be transmitted to close contacts) and a wide variety of presentations are problematic in getting an accurate diagnosis. Because scabies can present with burrows, papules, scales, vesicles, bullae, crusts, pustules, nodules and excoriation's, it is necessary to do a careful history followed by burrow identification and skin scrapings for the mite, its eggs or fecal pellets. The following are recommendations for prevention and control of institutional scabies.

A. Scabies Prevention Programs in Health Care Facilities Require That:¹

1. Health care workers be suspicious of scabies in person with a rash or pruritus that has gradually gotten worse, particularly during the night time hours;
2. Health care facilities establish a policy of examining newly admitted person for scabies and questioning new employees for either exposure to or symptoms of scabies;
3. The diagnostic skills of a consultant experienced in recognizing scabies be used in evaluating difficult or unusual cases;
4. In-house competence in preparing and examining skin scrapings from suspect person be developed;
5. Protective clothing and gloves be used when providing hands-on care to persons suspected of having scabies;
6. A system for recording edpidemiologic and clinical information on suspect and confirmed person be established.

B. Equipment Needed for Skin Scraping:

1. Gloves
2. Magnifying glass
3. Gooseneck lamp
4. Felt tip pen—green or blue washable ink
5. Alcohol swabs
6. #15 scalpel blades, glass slides for scraping or curettes
7. Scalpel holder (optional)
8. Kelly clamp or other forceps (optional)
9. Slides and cover slips
10. Mineral oil or microscope immersion oil
11. Requisitions, if slides are being sent to a public health laboratory
12. Sharps container
13. Clear nail polish or petroleum jelly (to help seal the slide cover to slide)

C. Procedure for Doing Skin Scrapings:^{1,2}

1. Establish and confirm the diagnosis by skin scrapings and microscopic identification of mites, eggs or scybala (fecal pellets). A nurse from the facility can be taught this procedure by a dermatologist, the consulting physician or a by a nurse or technician who has had professional training in doing the procedure.
 - a. Mass treatment (treating all person residing or working on a unit or in an entire facility) should not be initiated unless a definite diagnosis has been made in at least 1 of the symptomatic cases.¹
 - b. Scrape those persons with the most severe rash first. Elderly may present with severe urticaria and bullous lesions.
 - c. Shoulders, back and abdomen are choice areas for scrapings in the elderly.² Other sites: hands, wrists, elbows, feet, ankles, buttocks, axillae, knees, thighs, and breasts.
 - d. Use hand-magnifying lens to identify recent burrows or papules. Look for non-excoriated, non-inflamed areas. A bright light and a magnifying glass may assist in visualizing the mite at the end of the burrow.
 - e. Identify these high yield lesions by applying mineral oil (best used over dry scaly areas) or by applying the burrow ink test to possible burrows. The burrow ink test is done by using a wide felt tip pen (blue or green are best) over burrows and then wiping off with an alcohol swab. The alcohol will remove most surface ink, but will not remove the ink taken up by the burrow, thus leaving a dark irregular line.
 - f. Apply mineral oil or preferably microscope immersion oil to lesions or scalpel blade and glass slides.
 - g. Vigorously scrape uninfected burrows and papules with a #15 scalpel blade or glass slide held at a 90° angle to the skin and while

holding the skin taut until the statum corneum is removed.^{2,3,4} Scrapings may also be done without a holder for the #15 scalpel blade. The blade is held by the fingers at an angle that is more like 45° to the skin. (Vigorous scraping appropriately results in a few red blood cells visible under the microscope, but there should not be frank bleeding.) Some practitioners prefer using a small curette. Change blades or curettes between scrapings on different persons. Blades can be placed and removed from the handle with a forceps. Used blades must be placed in a sharps container.

- h. Transfer skin scrapings from 6 different sites to a single slide or to 6 different slides per patient.² These scrapings can be pushed onto the slide edge and then moved to the center of the slide.
- i. Place a cover slip over the slide.²
- j. Examine entire slide methodically under low power at 25-50-x magnification for at least 5 minutes.¹ Low power (2.5-4 x) is useful initially. The microscope should be taken to the facility; however, if the practitioner is not trained in reading the slides, the cover slip should be secured to the slide at all edges with clear nail polish or petroleum jelly and transported personally, by courier, or by mail (in a secure mailer) to:
 - 1) Missouri State Public Health Laboratory (MSPHL);
 - 2) A branch of MSPH
 - 3) A hospital or rural clinic laboratory with pre-arrangements; or
 - 4) A physician's office with pre-arrangements.

Public health laboratory requisitions must accompany slides if readings are to be done at public health laboratory.

D. **Surveillance and Collation of Epidemiologic Variables for Scabies:**^{1,2}

- 1. Surveillance by chart review, interview and direct observation should be done, using a form such as in Appendix A to identify all patients/residents who are likely to have been exposed to scabies.
- 2. Surveillance should be done by interview, completion of a self-administered questionnaire such as in Appendix B and /or direct observation in order to identify all employees, including laundry personnel, who are likely to have been exposed to scabies.
- 3. Make a line list (see Appendix C for sample line list form) of room number, age, sex, symptoms, date of onset for:
 - a. **Symptomatic persons with positive scrapings;** differentiate between conventional and Norwegian (keratotic or crusted) scabies.^{1,2,5} (See Appendix D for "Definitions of Scabies Infestations").
 - b. **Symptomatic person with negative scrapings.**
 - c. **Asymptomatic contacts** of a symptomatic case. These contacts should be on a totally separate line list. Close contacts are person

who have skin to skin contact, sleep in the same bed or handle infested clothes and bed linens. Contact of crusted scabies should be designated High Risk, Low Risk and No Risk per definitions on page 10.

- d. Contract tracing should go back 2 months.
4. Ascertain the epidemic level: proportion of affected person (positive scrapings or symptomatic) .¹ This information will determine whether person in the whole facility or just one section are treated.
 - a. Determine percentage of affected person (patients or residents) within the entire facility's population of patients or residents.
 - b. Determine percentage of affected employees within the entire facility's employee population.
 - c. Determine percentage of affected person within each subgroup of a population; i.e., nursing home wing, hospital department.
5. Look for similarities or groupings in age and sex among affected persons.¹
6. Ascertain type and frequency of secondary bacterial infections.^{1,5}
7. Determine the mode of transmission; i.e., employees having close personal contact like bathing, bedmaking, applying skin lotions, frequent lifting/repositioning of patients^{1,2}

Or

exchanging clothing, sleeping on same linens, playing games involving close hand or skin contact^{1,2}

Or

sexual contact.^{1,2}

E. **General Recommendations**

1. Report outbreak to the local health department using an outbreak report form, Appendix E. Do not use separate CD – 1 cards for every case in an outbreak.
2. Notify facilities to which potentially infested patients or employees have transferred.^{1,8}
3. Intensive educational programs should be given to all employees.¹ They should be given a Fact Sheet on Scabies.
4. Scrapings need not be done on every symptomatic person in a large outbreak, but an effort should be made to scrape all persons having numerous lesions and symptoms of long duration.

5. Allocate sufficient personnel and funding to initiate and manage follow-up treatments. Facility should purchase enough medication to treat symptomatic persons (patients/residents, employees, volunteers and family members) and their close contacts.^{1,2}

F. **Selective Treatment Protocol**¹

1. A conventional scabies treatment regimen can be selective when only 1 person has a positive scraping and 1 –2 others on the same unit are symptomatic but have either not been scraped or have negative scrapings. Selective treatment protocol can be used.¹ If a scraping is positive for a person who is severely immunocompromised or for a person who has crusted scabies, then the potential for spread is greatly increased and selective treatment protocol will probably not prevent further cases. (See G-3 and Appendix D, “Definitions of Scabies Infestations”).
2. The diagnosed and probable infested cases and symptomatic contacts should receive treatment with subsequent monitoring for effectiveness of treatment. A skin scraping should be done on the symptomatic cases 1 month after treatment,² particularly if rash and symptoms persist. (See section H).
3. All “hands-on” contacts during preceding 2 months (employees, relatives and other patients) of any patient/resident with a positive scraping should be treated. Patients or residents having received “hands on” personal care from a positively diagnosed or symptomatic employee should receive treatment, as should the employee’s household.^{1,2,9}

G. **Mass Treatment Protocol**^{1,2,9}

1. Definition: A mass treatment protocol uses the same drug regimens as in selective treatment except that all persons residing or working on a unit or in an entire facility are treated.
2. One physician should be designated as the outbreak control officer and be given authority to manage the treatment regimen of all residents in a long term care facility. At the least, all attending physicians should agree to a cooperative schedule for conventional or Norwegian scabies.⁹
3. Mass treatment should be administered within a 24-48 hour period to all persons (residing and working) in a defined area of the facility if:^{2,9}
 - Two (2) or more symptomatic patients/residents or employees have positive scrapings
 - Or**
 - One (1) asymptomatic patient/resident has a positive scraping and many patients/residents have exhibited symptoms of infestation for months (2—10% rate of symptomatic infestation).
 - Or**
 - Norwegian scabies is diagnosed in one (1) patient/resident and at least one (1) employee is symptomatic.¹

4. Mass treatment of everyone in the facility (all residents and at risk employees) should be administered within a few successive days if positive scrapings are found in 2 or more separate areas of the facility.
5. Employee cross-over should not be allowed until the specified population has been treated.
6. Household members, sexual contacts and roommates of symptomatic employees should be treated the same day as the employees.¹
7. Write a detailed schedule of:
 - a. Who will be treated and who will do the treating;
 - b. What will be used for treatment, including specific instructions on how to apply lotions;
 - c. Where treatments will be done; i.e., a treatment room, individual beds, at home;
 - d. When treatments will be done (date and time);
 - e. State when the person will be considered non-infested, can be removed from isolation and can return to work. (See Section I)
8. Write a second schedule for:
 - a. Reassessment of all treated person at 14 days.
 - b. Persons needing a second treatment 3—7 days later. (See section H 8-9).
 - c. Persons with crusted or infected lesions needing routine daily monitoring, monthly scrapings for a few months or a maintenance monthly treatment regimen.²
9. Notify all families and frequent visitors about problems and need for their cooperation.^{1,2}

H. **Application of Scabicides and Steroid Creams**

1. Treatment failures may occur for several reasons, the most common being inadequate application of scabicide.^{1,2,5,8,9,10} Other reasons for treatment failure include:

- a. Infected or crusted lesions.⁹
 - 1) Keratolytic agents (20—40% urea and 6% salicylic acid) may be necessary to soften scalliness and permit penetration of scabicide.^{2,5,11}
 - 2) Concomitant bacterial infection should be treated with appropriate antibiotics and retreated for scabies a week or 10 days later.¹¹
- b. Reinfestation from untreated contacts⁹
- c. Cell-mediated immunodeficiency^{1,12}
- d. Resistance of mites to the scabicide^{8,13,14}

NOTE: Pruritus and rash can continue for 1-4 weeks after treatment. Pruritus and residual rash should not be considered treatment failure until 1 month after last treatment. To ameliorate these signs and symptoms, some dermatologists use 1% hydrocortisone cream or triamcinolone cream (0.1%-0.025%) applied to the most intense rash and a lubricating agent or emollient to the lesser rash for children;^{15,16} 1% hydrocortisone cream or triamcinolone cream 0.1% can be used for adults as well.¹⁵ Antihistamines are also used to alleviate the hypersensitivity response.

- e. Steroid creams should not be applied until after first scabicide treatment. Topical and systemic steroids cause depression of delayed hypersensitivity and pruritus, thus allowing scabies to go undetected and transmission unimpeded.
2. Gloves and gown are worn to apply scabicides.
3. Bathe as usual and change bed linens.
4. Apply scabicide to every square inch of skin, from the posterior ear folds down over entire body, including all non-affected areas. Include intergluteal cleft, navel, crevices of contractured extremities, and webs between fingers and toes.¹¹ If scabicide is washed off during handwashing or perineal care, it must be reapplied.,
5. In infants, toddlers under 3 years of age, the elderly and the immunocompromised, the head (face and scalp) requires application of scabicide. Pay close attention to the area behind the ears. Do not get the scabicide near the eyes or mouth. Prior treatment failure may be an indication to include the head in other persons.^{2,11,16}

Lindane shampoo, used as directed on the label, can be used for certain persons (elderly) to treat the scalp.
6. Fingernails and toenails should be clipped and scabicide applied under nails. A small soft brush is helpful for this.^{2,17,18}
7. Scabicides
 - a. 5% permethrin cream (a synthetic pyrethroid)¹⁹ Elimite is a trade name for this product. *
 - Considered drug of choice by several authorities including the 1994 American Academy of Pediatrics “Red Book” and the Medical Letter, March 23, 1990, p. 29
 - Cure rate in one study was 91%.^{10,14}
 - 1 application is considered curative, although 2 applications are frequently recommended by experts for symptomatic persons.

The usual adult dose is 30 grams. A 60-gram tube should treat 2 adults. For adults, it should be massaged into skin covering the entire body (except the head) from the soles of the feet to the neck. For infants, young toddlers, and geriatric patients, it should be applied to the entire body including the scalp, neck temples and forehead because of the mite often infests these areas in those age groups. The patient should be instructed to remove the medication by thoroughly bathing 8-14 hours after application. Contact with the eyes and mouth should be voided. If contact occurs, the eyes should be immediately flushed with water. Note: Studies have not demonstrated plasma levels. The drug is rapidly broken down and is excreted in urine as inactive metabolites.^{6,19}

Permethrin is safe for children 2 months of age and older. No instance of accidental ingestion has been reported. The most commonly reported side effects are pruritus, edema and erythema, which may continue for up to 2 weeks after treatment. Patients should be told that the itching or stinging of scabies infestation may continue after treatment, and should be advised to avoid repeated application of the scabicide.

Although animal studies showed no adverse effects to reproductive function or damage to fetus, no adequate studies have been done on pregnant women. Therefore, permethrin should be used during pregnancy only when clearly necessary. If treatment is necessary for lactating mothers, breast-feeding should be discontinued during the treatment period.

- b. 1% lindane lotion (comes in 2 oz. bottle) is effective when applied properly.^{9,11,20} The usual amount of lindane lotion required to treat one adult once is 30 grams (1 oz.).⁶ Lotion bottle must be **shaken well**.
- Bathe with tepid water, not hot water, if a bath is taken prior to application of scabicide.
 - Leave on for 8 hours or overnight; some physicians prefer a 12-24 hour application.⁵ Most absorption of lindane occurs in the first 6 hours after application.²⁰
 - Avoid contact with eyes and mucous membranes.
 - Not to be used for small infants, pregnant women or nursing mothers.^{10,20} Use of lindane for any reason in small children is seriously questioned by the National Pediculosis Association. Lindane should be avoided in anyone with seizure disorders and in anyone with severe skin disruption (excoriated or denuded). If lindane is used for lactating mother, discontinue breast-feeding for 2 days.⁶

- c. 6% precipitated sulfur in petrolatum prepared by pharmacy.¹⁵
 - Cure rate is unknown—has not been studied, but used for centuries.
 - Product is messy, malodorous and somewhat irritating.
 - Apply nightly for 3 nights (wash off previous application before reapplying a new application).¹⁵
 - Recommended in infants younger than 2 months of age and in pregnant or lactating women.¹⁵
- d. 10% crotamiton cream or lotion (Eurax* Cream or Lotion) has an approximate 50% cure rate when applied less than 5 days,^{10,20,21,22} 60% effective for full treatment.
 - Cream must be thoroughly massaged into skin.
 - Apply twice a day for 5 days.¹⁰
 - Avoid contact with eyes and mucous membranes.
 - Can be used on youngsters and elderly with dry sensitive skin,⁵ but not denuded skin.²⁰

8. Conventional scabies regimen

- a. A single application of 5% permethrin cream or 1% lindane is recommended in facilities provided that application of scabicide is supervised by a professional health care worker who is knowledgeable about scabicide treatments. Several authorities claim that a single adequate application of 5% permethrin cream or 1% lindane is sufficient to eradicate conventional scabies, whether a diagnosed case, symptomatic case, or asymptomatic contact.^{9,11} This has been effective in the clinical practice of treating individual families.
- b. Institutional scabies has a high propensity for transmission. If supervised application of scabicide by trained employees is not possible, the following regimen is recommended:

Persons who are positively diagnosed by skin scrapings—

- 3 treatments spaced 3-7 days apart, utilizing 2 different agents²
- Reevaluate at 14 and 28 days.

Symptomatic cases who's skin was not scraped or scraping was negative—

- 2 treatments, 3-7 days apart.^{2,5,11}
- reevaluate at 14 and 28 days

Asymptomatic contacts, include household and sexual contacts, of diagnosed or symptomatic cases—

- 1 treatment, evaluate in 14 days²

- c. It should be acknowledged that some clinicians prefer to treat symptomatic individuals with two applications on two consecutive days.
9. Norwegian Scabies (atypical, crusted) regimen
- a. Aggressive treatment over entire body.¹ (See H # 1-6)
 - b. 5% permethrin cream for 1 day, followed by 10% crotamiton lotion for 5 days, followed by a second 5% permethrin cream for 1 day.^{2,5,8}
 - c. Reassess on days 7 through 14 with follow-up scrapings in one month.² If scrapings are positive or if symptoms unabated, treat again.
 - d. If treatment failure occurs several times, monthly maintenance treatments should be given for an extended period of time; (e.g., applications of 10% crotamiton lotion for 2 days each month.^{2,8})
 - e. Protective gown and gloves are necessary until scrapings are negative on 3 separate occasions.
 - f. Categorize contacts by risk of mite transmission¹
 - 1) High risk: prolonged or recurrent hands-on contact before initiation of patient treatment,
 - 2 treatments, 3-7 days apart.
 - 2) Low risk: persons having had indirect contact (touching patient's clothing or linens); a simple, brief period of direct skin to skin contact (obtaining a blood specimen, positioning a patient for radiography); or a patient who was cared for by an employee who also cared for the scabetic patient.
 - 1 treatment
 - 3) No risk: person having had neither direct nor indirect contact require no treatment.
10. Cleansing bath is taken when product is to be removed. Some experts do not believe it is necessary to bathe residents at designated times in order to remove scabicide. Estes and Estes suggest that an extended interval before bathing or repeated applications be considered to offset reinfestation.⁶
11. Fresh clean linens and clothes are put on after the cleansing bath.

I. **Isolation and Environmental Control for conventional Scabies**

- 1. Environmental reservoirs were considered to play little or no role in scabies transmission until late 1988. Since then, Arlian and colleagues have demonstrated that *S. scabiei* can remain alive for 3 days on stuffed chairs, sofas and tiled floors. He found that nymphs could survive 2—5 days at 25°C and 45-75% relative humidity. Outbreak reports implicate bed linens and clothes as probable sources of transmission.²³

2. Isolate affected patients/residents during the treatment period or for 24 hours after initiation of scabicide such as 5% permethrin cream or 1% lindane lotion; 24 hours after last application of other scabicides; restriction of contact with other persons—restrict to room or home.⁵
3. Wear gown and gloves for skin to skin contact. Wash hands after removal of gloves.¹
4. Bed linens, towels and clothes used by the affected persons within 72 hours prior to treatment should be placed in plastic bags inside the patient's room, handled by gloved and gowned laundry workers and laundered at 50°C (122°F).^{1,23,24} Hot cycle of dryer should be used for at least 10—20 minutes. Nonwashable blankets and articles can be placed in a plastic bag for 7 days or dry cleaned or tumbled in a hot dryer for 20 minutes.²⁶
5. All bed linens, towels and clothes should be changed daily.
6. Multiple-use walking belts, skin creams and ointments can serve as potential reservoirs for mites. Disinfect the walking belt and discard all creams, lotions or ointments used prior to effective treatment.^{25,26}
7. Mattresses, upholstered furniture and carpeting should be vacuumed.
8. Routine disinfection procedures are adequate on a daily basis.¹
9. Symptomatic employees should be allowed back to work the morning following overnight treatment with 5% permethrin cream or 1% lindane. Disposable gloves should be worn for 2—3 days by symptomatic staff who must provide extensive hands-on care to their patients.¹

J. Isolation and Environmental Control for Norwegian Scabies-

Measures remain in place until skin scrapings are negative on 3 consecutive occasions.

1. Assign patient/resident to a private room.¹
2. Restrict contact with visitors until treatment regimen completed and scrapings are negative for live mites. Alternatively, visitors must take the same precautions (wearing a gown and gloves) as employees.^{1,2,27}
3. Cohort employees to care this patient/resident only (no other direct care responsibilities) until effective treatment is completed. Other duties for these employees can include record keeping and filing.¹
4. Wear gown and gloves to attend to patient needs, for housekeeping duties and handling of laundry.²⁸
5. Spray insect repellent (pyrethins) to wrist (edge of the glove and ribbing of sleeve area), arms and front of gown. Remove before leaving the room. Wash hands.
6. Upholstered furniture covered with cloth fabric should be removed from the room or replaced with furniture covered in plastic or vinyl. Mattresses must be covered with plastic or vinyl.¹
7. The patient's room should be vacuumed daily with a vacuum cleaner designated for this room alone.¹
8. Routine disinfection procedures should follow thorough vacuuming on a daily basis and upon discharge of the patient from the room.

9. Utilize any other appropriate protocols such as given in subsections 4—6 under Environmental Control for Conventional Scabies.

*The identification of trade names does not imply endorsement by the Missouri Department of Health.

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* Additional information and collection forms for patients, residents or employees are available from the Department of Health (DOH) by contacting the Section of Communicable Disease Control and Veterinary Public Health at (573) 751-6113 or (800) 392-0272).

Patient/Resident Survey Form For Rash Condition

Name _____ Chart Reviewer/Interviewer _____

Record # _____ Age _____ Sex _____ Survey Completion Date _____

Nursing Unit _____ Room # _____ Epi I.D. # _____

Admission Date _____ Name of facility transferred from _____

Current Clinical DX _____

Description of rash (check or circle all that apply)

Date of onset

Burrows: red, white, gray _____

Papules: red, white, pus-filled _____

large or tiny _____

Hives _____

Bullous lesions _____

Scales _____

Crusts _____

Other _____

Lesions are predominately on _____

Does the patient complain of itching? Yes _____ No _____

Is itching worse during day or night? Yes _____ No _____ Day _____ Night _____

Is the patient scratching? Yes _____ No _____ Is excoriation present? Yes _____ No _____

Does the rash area have pus or yellow-green drainage? Yes _____ No _____

Diagnostic Tests

Dates

Results

Skin scrapings? Yes _____ No _____

Shavings? Yes _____ No _____

Skin biopsy? Yes _____ No _____

Culture of skin lesions? Yes _____ No _____

Other _____

Treatment for Rash (including steroid creams/lotions)

Name of medications

Dates administered

Environmental Factors and Direct Contact Exposures

Has there been a change in laundry soap in the past 2 months? Yes _____ No _____

Is there a different contract laundry in the past 2 months? Yes _____ No _____

Participation in activities and personal habits:

Dancing or games of hand holding? Yes _____ No _____ Crafts? Yes _____ No _____

Frequent touching of others? Yes _____ No _____

Does roommate have a rash? Yes _____ No _____ Name of roommate _____

Does a visiting family member or friend have a rash? Yes _____ No _____

Name(s) _____

Dates(s) of exposure to persons known to have scabies or a rash. _____

Employee Questionnaire For Rash Condition

Name: _____ Age: _____

Shift hours: _____ Sex: _____

Department: _____

Assigned areas: _____

Duties: _____

Have you had any type of rash recently? Yes _____ No _____

When did it start? _____

Has anyone in your family had a rash? Yes _____ No _____

Who? _____

When did it start? _____

Please describe the rash: _____

Have you or has your family seen a doctor for this rash? Yes _____ No _____

Name of doctor and diagnosis: _____

What type of medication have you used? _____

How did you apply, use the medication? _____

What date or week did you last use the medication? _____

The medication caused the rash to: Improve/get worse (circle correct answer)

Did rash return after medication was discontinued? Yes _____ No _____

Thank you for your time and cooperation in answering these questions.

Definitions of Scabies Infestations

Conventional scabies: average 10-15 mites at any given time, although only 1—2 mites may be recovered in scrapings, (frequently none are observed); occurs in physically healthy persons.^{1,2}

Severe scabies: A typical crusted scabies: usually a total of 3—6 mites and 8—12 eggs observed on 5—7 slides; do not exhibit hyperkeratotic cutaneous response because of decreased cell mediated immunity; some lack pruritus; occurs in nursing home residents and elderly with coexistent chronic disease; moderate to high risk of transmission.⁶

Norwegian scabies: Typical crusted or keratotic: thousands of mites at any given time; multiple live mites, eggs, and scybala (fecal pellets) observed on almost every slide; have hyperkeratotic skin; occurs in debilitated, immunosuppressed, advanced chronic disease and mentally handicapped. High risk of transmission is high from skin and formite contact. (Exfoliating skin scales harbor enormous numbers of mites which are shed onto linens, furniture, and carpeting).^{1,2,5,7}

Nodular scabies: pruritic nodules, apparently due to hypersensitivity persisting for weeks to a year or longer, despite scabicial therapy, but eventually clear spontaneously: may regress with the use of corticosteroids; surgical excision sometimes indicated if patient concerned and intralesional cortisosteroids ineffective.⁵

Pseudoscabies: scrapings always negative; fostered by residual pruritus in effectively treated cases and by conversations between misinformed persons.¹⁻⁵

Canine-transmitted scabies: caused by the *Sarcoptes scabiei var canis* species of mite from dogs; the mite does not reproduce or complete its life cycle on humans and thus burrows are not created; not usually transmitted person to person.



MISSOURI DEPARTMENT OF HEALTH
SECTION OF COMMUNICABLE DISEASE CONTROL AND
VETERINARY PUBLIC HEALTH
NOSOCOMIAL OUTBREAK REPORT FORM

PO BOX 570
JEFFERSON CITY, MO 65102
(800)392-0272 OR
(573)751-6113

REPORTED INITIALLY BY													
NAME								TITLE					
ORGANIZATION								DATE/TIME				TELEPHONE NUMBER	
TO NAME								TITLE					
ORGANIZATION								DATE/TIME				TELEPHONE NUMBER	
REPORTED TO													
LOCAL CO/CITY HEALTH DEPT. <input type="checkbox"/> Yes <input type="checkbox"/> No DATE _____ TIME _____								DEPT. OF MENTAL HEALTH <input type="checkbox"/> Yes <input type="checkbox"/> No					
DISTRICT HEALTH DEPT. <input type="checkbox"/> Yes <input type="checkbox"/> No DATE _____ TIME _____													
COMMUNICABLE DISEASE <input type="checkbox"/> Yes <input type="checkbox"/> No DATE _____ TIME _____								DATE _____ TIME _____					
DIVISION OF AGING <input type="checkbox"/> Yes <input type="checkbox"/> No DATE _____ TIME _____													
1. Name of Facility													
Contact Person/Position Title										<input type="checkbox"/> Hospital <input type="checkbox"/> Mental Health <input type="checkbox"/> Nursing Home <input type="checkbox"/> Rehabilitation			
Address (Street or PO Box, City, State, Zip Code)										Telephone Number			
2. Number of Cases and Number of Exposed at Each Location, Service, or Nursing Unit													
	No. Cases		No. Exposed		No. Cases		No. Exposed		No. Cases		No. Exposed		
	Residents	Employees	Residents	Employees	Residents	Employees	Residents	Employees	Residents	Employees	Residents	Employees	
Medical Units	Unit				Unit				Unit				
Surgical Units	Unit				Unit				Unit				
Intensive Care Units	Adult/Type				Pediatric/Type				Newborn/Type				
Obstetrics	L & D				Post Partum				Newborn				
Rehabilitation	Unit				Unit				Unit				
Mental Health	Unit				Unit				Unit				
Long Term Care	Unit				Unit				Unit				
Illness/Disease		Date First Case Starting Outbreak				Date of Case Causing Outbreak to be Reported				Date of Last Case			
3. Principal Symptoms/ Onset Dates													
4. Microorganisms: A. Specimen Source/ Collection Date				Findings:									
B. Laboratory Name and Address													
5. Total Number of Cases		Residents		Employees		As of Date							
6. Control Measure(s) Instituted													

Appendices	
Appendix K. Guidelines for Investigation of Gastrointestinal Illness	Issued 7/1/99

**DEPARTMENT OF HEALTH
SECTION OF COMMUNICABLE DISEASE CONTROL AND
VETERINARY PUBLIC HEALTH**

**GUIDELINES FOR INVESTIGATION
OF GASTROINTESTINAL ILLNESS
OF UNDETERMINED ORIGIN
IN LONG TERM CARE FACILITIES**

Guidelines for Investigation of Gastrointestinal Illness Of Undetermined Origin in Long Term Care Facilities

This is a guideline for initiating the very first steps of an outbreak investigation of gastrointestinal illness in a long-term care facility. The following sequence of action steps should facilitate a prompt and effective investigation.

- I. Use the attached investigation form (Attachment A) to answer the most basic, preliminary questions related to an outbreak of a gastrointestinal illness.
- II. Consult with the Section of Communicable Disease Control and Veterinary Public Health (district coordinator or central office), sharing as much of the information from the above mentioned form as possible.
- III. Arrange for stool (and possibly blood) specimen collection using the procedures outlined below.
- IV. Develop a hypothesis utilizing the following general principles:
 1. If symptoms develop on one floor and move to other floors in a rapid progressive fashion, suspect person-to-person transmission.
 2. If there are symptomatic cases distributed on multiple units within a 12 hour period, suspect a common food source. Request the facility distribute the employee questionnaire to foodhandlers and proceed with a foodborne investigation.
- V. Proceed with a foodborne outbreak investigation (Attachment B) if suspected.
- VI. Obtain information on control measures to prevent further cases.
- VII. Share control measures with persons who need to know and implement them.
- VIII. Create outbreak line-listing (Attachment C).
- IX. When outbreak controlled, complete and submit the nosocomial outbreak report from (Attachment D).

General Guidelines for Specimen Collection and Testing

- Request that the facility's medical director or his/her designee be responsible for coordinating the ordering of diagnostic tests.
- Be sure that each specimen container is labeled with the person's name and the date specimen was collected. They will be thrown away if there is no label.

- Whenever the causative organism is unknown during initial investigation, **two** specimens should be collected from each symptomatic person, one for potential viral testing at the Missouri State Public Health Laboratory (MSPHL) and/or Centers for Disease Control and Prevention (CDC) and one for bacteriology testing at the MSPHL.
- The laboratory will set up an outbreak kit that will include the following per patient:
 1. One set of collection vials (one with and one without transport media).
 2. Two patient forms (one for viral testing and one for bacterial testing).
 3. One specimen outbreak bag (with side pocket for both forms).
 4. Patient instructions/institutional instructions.
 5. Individual/multi mailer with cold packs and labels.
- All specimens should be transported cold to MSPHL by quickest possible means.

Stool Specimens and Blood Specimens for Viral Testing

1. Stool Specimens – collect from 10 or more persons

Liquid stool specimens should be collected within 72 hours of symptom onset.

Utilize plastic wrap over the back portion of the toilet seat/commode or a freshly sanitized bedpan in order to collect the specimens. Collect at least 10cc of liquid stool.

Stool for viral testing must be placed in the vial or container that does not contain transport media. (Alternatively, in an emergency, dump out media in some enteric vials or use a urine specimen cup. The specimen container must be labeled, “For viral testing.”) **The patient’s name and collection date must also be on the container.**

- a. If symptoms and epidemiologic data indicate an illness of viral origin, all stools will be tested for rotavirus and adenovirus #1 – 41 at the Missouri State Public Health Laboratory. Concurrently, a minimum of 10% of the bacteriology specimens in transport media will be screened for bacterial organisms (*Salmonella*, *Shigella*, *Campylobacter*, *Yersinia*, *E. coli O157:H7* or others as requested).
- b. **Stools from a minimum of 10, persons along with paired serum specimens on the same persons submitting stools,** are necessary for electron microscope testing for Norwalk-like viruses, calicivirus, astrovirus, etc., at CDC. The stool specimens should be stored in the refrigerator at +4°C or 39°F. **They must not be frozen** because freezing destroys the characteristic viral morphology that permits a diagnosis by electron microscopy.

- c. Because of the low probability that enteroviruses are causative, enterovirus testing of stool specimens should not be requested in long term care outbreaks of gastroenteritis.
2. Blood Specimens – collect from 10 persons

If both viral and bacterial tests on stools done at MSPHL are negative, the contact persons from the Section of Communicable Disease Control and Veterinary Public Health will call the CDC to see if they will run specimens for Norwalk-like viruses. If the answer is 'yes' then collect 10 acute bloods from the same persons that contributed stool specimens for viral testing. Obtain 10cc of blood in red top (no anticoagulant) tube within 5 days of onset to accompany stool for electron microscope testing. The state lab will centrifuge the blood. Obtain a convalescent blood specimen from the same persons 3-6 weeks after the first blood specimen. Acute and convalescent bloods should be at least 3 weeks apart.

Stool Specimens for Bacterial Testing

Collect stool specimens from 10 or more persons for bacteriology tests. Transfer at least 10cc of stool from the collection site (plastic wrap over the back portion of the toilet seat or a freshly sanitized bedpan) into the vial with Cary-Blair transport media. **This vial for bacteriology testing must be labeled, "Bacti" along with the patient's name and date collected.**

When symptoms and epidemiological data indicate illness of bacterial origin, all specimens in transport media will be tested for *Salmonella*, *Shigella*, *Campylobacter*, *Yersinia*, and *E. coli O157:H7*. Concurrently, a minimum of 10% of the viral specimens will be screened for rotavirus and adenovirus.

Note: If the suspect organism is either *Clostridium* or *Bacillus* species, the stool specimen in the vial without transport media will be used for testing.

Further Processing of Stool Specimens

If either of the 10% screenings (bacterial or viral) turn up positive, the rest of the patient samples will be tested for that specific organism.

If the field person is unable to determine whether the suspected causative agent is bacterial or viral, the laboratory will run the specimens for both viral and bacterial agents in consultation with the Section of Communicable Disease Control and Veterinary Public Health. (If the number of specimens is very large, the Section of Communicable Disease Control and Veterinary Public Health and the laboratory may decide on a certain percentage to be screened initially.)

Additional information on specific organisms can be found in the Communicable Disease Policy and Procedure Manual – Foodborne Section, Subsection 3.0.

Request forms

The requesting forms should state ‘outbreak.’ They should state name of the ill person, date, and to whom the results are to be reported.

- If the Section of Communicable Disease Control and Veterinary Public Health (CDCVPH) communicable disease coordinator or the county health department is to receive the reports, their name should be listed on each form. No letter of justification is needed from the CDCVPH for testing outbreak specimens without a charge.
- If the facility is to receive the reports, list its name on each form. **A letter is needed from the CDCVPH to justify having outbreak specimens tested at no charge to the facility.**
- If the ill person’s private physician receives the report, each test will be charged to the physician.

Initial Investigation Parameters in Gastroenteritis Outbreaks within Long Term Care Facilities

Please answer the following questions and fax to the District Health Office.
The District Health Office will fax to the Section of Communicable Disease Control
Veterinary Public Health.

- A. Basic information required
1. Date outbreak reported_____
 2. Person reporting outbreak (name, telephone number)_____
 3. Person to contact for more information (name, position, telephone number and address)_____
 4. Where outbreak occurred – facility's name address and wings or units_____
 5. Date of onset of first case (case which probably started the outbreak)_____
 6. Date of onset of the case that brought outbreak to one's attention_____
 7. Suspected / Diagnosed illness or principal symptoms
 - a. Use the following case definition initially:

Place a check mark in front of the statements appropriate to this outbreak.

Criteria

_____ TWO or more loose or watery stools above what is normal or the resident within a 24 hour period

-or-

_____ TWO or more episodes of vomiting within a 24 hour period

-or-

_____ Stool Culture positive for a pathogen(*Salmonella*, *Shigella*, *Campylobacter Species*, *Yersinia*, *Clostridium difficile*, *E. coli* 057:H7, _____)

Conditions

For the first two criteria, there must be no evidence of a noninfectious cause; e.g., for diarrhea: laxative, change in tube feeds or medication; for vomiting: change in medication, peptic ulcer disease

←Circle or fill in name of an organism if identified in one or more residents.

Please circle 'yes' or 'no' to answer the following questions:

- b. Is the stool watery? **Yes No**
- Is there mucous in the stool? **Yes No**

- Is there obvious blood in the stool? **Yes No**
- c. Inquire as to whether cases generally had:
- c1. Nausea? **Yes No**
 - c2. Abdominal cramping or tenderness? **Yes no**
 - c3. Fever? **Yes No** How high? _____
 - c4. Chills? **Yes No**
 - c5. Malaise? **Yes No**
 - c6. Muscle aches? **Yes No**
 - c7. Headache? **Yes No**
 - c8. Upper or lower respiratory tract infection symptoms; e.g., runny nose, nasal or sinus congestion, sneezing, sore throat, coughing? **Yes No**
- If the answer is yes, request that these symptoms be included in the line list.
- 8. Number of cases suspected: #residents _____ #employees _____
#of total cases _____
 - 9. Number of residents in-house _____ # of employees on staff _____
 - 10. Duration of illness in most cases _____
 - 11. Control measure(s) instituted _____
-

Request the facility to generate a line list of the cases using the line list form (attached). Age and gender could be eliminated, but do include:

- Some identification for each case (a number or initials),
- A check as to whether 'employee' or 'patient'
- Room number and unit
- Symptoms, (add lines within this column for each symptom; e.g. **N** for nausea, **V** for vomiting, **D** for diarrhea, **C** for abdominal cramping, **F** for fever, **A** for aching, **H** for headache, etc.)
- Date of onset or date and hour of onset,
- Duration of illness,
- Hospitalization.

Document the type of population affected; e.g., skilled unit, Alzheimer's unit, residential care. A legend as to what population equals what unit should be placed at top or bottom of line list.

- B. Are all or most of the sick residents:
- 1. Fed by health care workers? **Yes No**
 - 2. Fed by tube feedings? **Yes No**
 - 3. Sitting at the same table? **Yes No** If yes, identify the table by letter or number

If the answer is yes to any of these questions, use these variables in the line list.

- C. Do employees eat the same food as the residents? **Yes No**
If yes, do they eat before the residents? **Yes No**

- Do they eat after the residents? **Yes No**
- D. Have any employees been ill with similar symptoms? **Yes No**
 If yes, do any of the sick employees include:
1. Food handlers? **Yes No**
 2. Nurses? **Yes No**
 If yes did they have direct contact with any of the sick residents? **Yes No**
 What kind of direct contact? _____
 3. Nurse Assistants? **Yes No**
 If yes, did they have direct contact with any of the sick residents? **Yes No**
 What kind of direct contact? _____
 4. Laundry workers? **Yes No**
 If yes, what do they routinely wear as far as personal protective
 equipment? Gloves? **Yes No** Gown? **Yes No** Mask? **Yes No**
- Distribute the employee questionnaire to all employees that would logically be related to the outbreak.
- E. Do employees crossover from floor to floor for work assignments? **Yes no**
- F. Is an ice machine being used that has a scoop? **Yes No**
 Is the scoop kept in the ice? **Yes No**
 Is a glove or plastic bag used to touch the scoop? **Yes No**

LOCATION OF OUTBREAK (NAME AND ADDRESS OF ESTABLISHMENT)

County:

[illegible][illegible]

Date of Report: _____ Investigator: _____

Attach epi-curve, attack rate table (if appropriate), sanitation inspection, and lab reports.

FOOD HISTORY

Include all foods, ice, water, and other beverages.

If water suspected, number of glasses of water, number of cold beverages made with water, number of beverages with ice ingested per day. (Use additional forms if longer food history required.)

Day Before Illness Onset, Date _____			Two Days Before Illness Onset, Date _____			Three Days Before Illness Onset, Date _____		
Breakfast			Breakfast			Breakfast		
Place	Hour		Place	Hour		Place	Hour	
Items			Items			Items		
Companions			Companions			Companions		
Lunch			Lunch			Lunch		
Place	Hour		Place	Hour		Place	Hour	
Items			Items			Items		
Companions			Companions			Companions		
Dinner			Dinner			Dinner		
Place	Hour		Place	Hour		Place	Hour	
Items			Items			Items		
Companions			Companions			Companions		
Snacks/Water Ingested			Snacks/Water Ingested			Snacks/Water Ingested		
Source	Hour		Source	Hour		Source	Hour	
Travel (locations)			Water Supply			Pet/Animals (Kind and Number of Each)		
Water Contacted During Recreation or Work in Last 6 Weeks			Sewage Disposal			Unusual Water Supplies Ingested in Last 6 Weeks		
Investigator			Title			Agency		
						Date		

LINE LIST

CASE	I.D.	E/P	AGE	SEX M/F	UNIT & ROOM	SYMPTOMS	EXPOSURE DATE	ONSET DATE	DURATION OF ILLNESS	PATHOGEN	SPEC. DATE	RX	DOCTOR	HOSP. DATES
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
DEFINE EXPOSURE						I.D. = PATIENT INITIALS E/P = EMPLOYEE/PATIENT SPEC. DATE = SPECIMEN COLLECTION DATE RX = TREATMENT HOSP = HOSPITALIZED								

LINE LIST

[illegible]



MISSOURI DEPARTMENT OF HEALTH
SECTION OF COMMUNICABLE DISEASE CONTROL AND
VETERINARY PUBLIC HEALTH
NOSOCOMIAL OUTBREAK REPORT FORM

PO BOX 570
JEFFERSON CITY, MO 65102
(800)392-0272 OR
(573)751-6113

REPORTED INITIALLY BY														
NAME								TITLE						
ORGANIZATION								DATE/TIME				TELEPHONE NUMBER		
TO NAME								TITLE						
ORGANIZATION								DATE/TIME				TELEPHONE NUMBER		
REPORTED TO														
LOCAL CO/CITY HEALTH DEPT.				<input type="checkbox"/> Yes <input type="checkbox"/> No		DATE _____		TIME _____		DEPT. OF MENTAL HEALTH <input type="checkbox"/> Yes <input type="checkbox"/> No				
DISTRICT HEALTH DEPT.				<input type="checkbox"/> Yes <input type="checkbox"/> No		DATE _____		TIME _____						
COMMUNICABLE DISEASE				<input type="checkbox"/> Yes <input type="checkbox"/> No		DATE _____		TIME _____		DATE _____ TIME _____				
DIVISION OF AGING				<input type="checkbox"/> Yes <input type="checkbox"/> No		DATE _____		TIME _____						
1. Name of Facility														
Contact Person/Position Title										<input type="checkbox"/> Hospital <input type="checkbox"/> Mental Health <input type="checkbox"/> Nursing Home <input type="checkbox"/> Rehabilitation				
Address (Street or PO Box, City, State, Zip Code)										Telephone Number				
2. Number of Cases and Number of Exposed at Each Location, Service, or Nursing Unit														
	No. Cases		No. Exposed			No. Cases		No. Exposed			No. Cases		No. Exposed	
	Residents	Employees	Residents	Employees		Residents	Employees	Residents	Employees		Residents	Employees	Residents	Employees
Medical Units	Unit					Unit					Unit			
Surgical Units	Unit					Unit					Unit			
Intensive Care Units	Adult/Type					Pediatric/Type					Newborn/Type			
Obstetrics	L & D					Post Partum					Newborn			
Rehabilitation	Unit					Unit					Unit			
Mental Health	Unit					Unit					Unit			
Long Term Care	Unit					Unit					Unit			
Illness/Disease		Date First Case Starting Outbreak				Date of Case Causing Outbreak to be Reported				Date of Last Case				
3. Principal Symptoms/ Onset Dates														
4. Microorganisms: A. Specimen Source/ Collection Date						Findings:								
B. Laboratory Name and Address														
5. Total Number of Cases		Residents				Employees				As of Date				
6. Control Measure(s) Instituted														